wisconsin architect
january/1968

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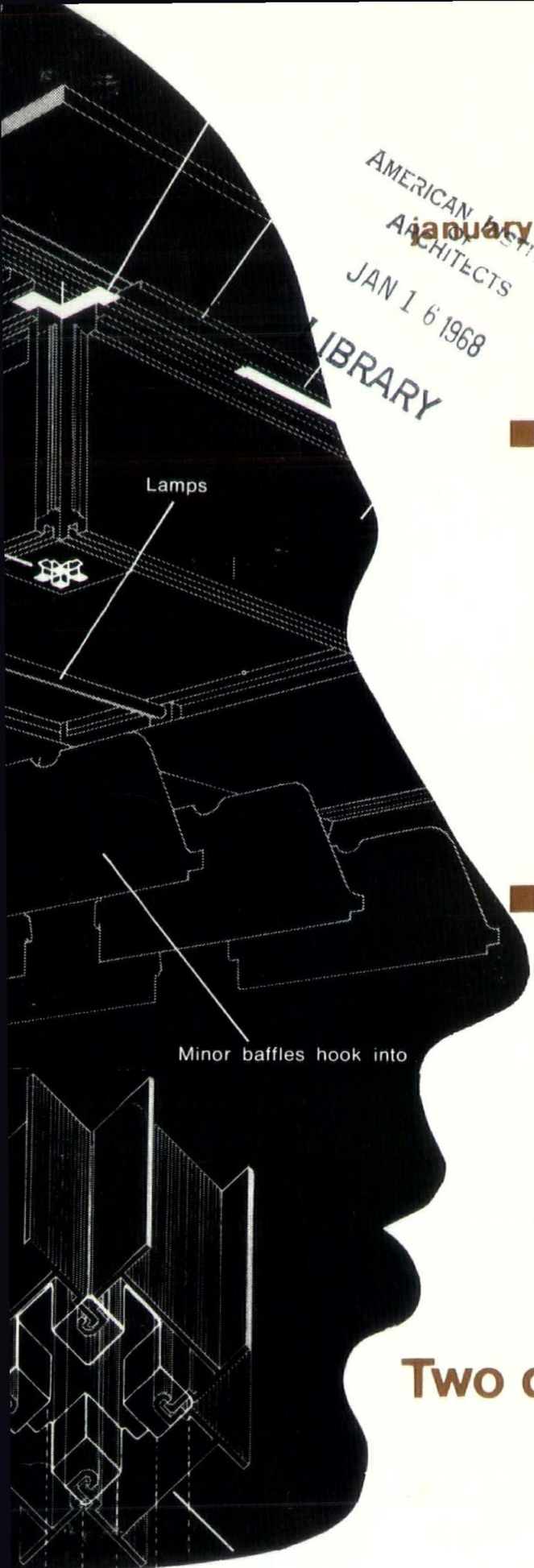

Two designers

John J Reis

It's just one part of the cement industry's research facility

Of vital interest to many graduating engineers are the $10,000,000 Research and Development Laboratories of the Portland Cement Association. Here in suburban Skokie, Illinois, near Chicago, is the world's largest assembly of engineers, scientists and equipment devoted exclusively to the study of portland cement and concrete.

In the Fire Research Center's huge furnace pictured above, full size beams and girders are subjected to licking flames from gas jets. Other furnaces subject whole floor sections to hours of intense heat.

In the nearby Structural Laboratory, the building itself serves as a giant testing machine for entire bridge sections. In still another laboratory, a machine capable of exerting a force of a million pounds bears down on a foot-thick concrete cylinder until it literally explodes.

Some of the research is fundamental—designed to increase basic knowledge of the nature of portland cement and concrete. Other projects are directed to development of new and improved uses of these materials. Still other projects are devoted to the processes of manufacture of portland cement—to help assure a uniform, high-quality product, whatever the source.

In this way, some 80 progressive (and competing) cement manufacturers who voluntarily support the Association work together to provide scientific data and design information that are freely given to engineers and builders through PCA's district offices, located in major cities of North America.

The results of this research enable engineers to design and build concrete structures of even greater safety, endurance and economy.

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wisconsin architect

Volume 39, No. 1 January, 1968

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index

notes of the month

Notes From the Department of Industry, Labor and Human Relations

by: Charles A. Hagberg, Administrator
Division of Industrial Safety and Buildings

It has been my pleasure to talk to several groups of designers during the past month and tell them of the provisions of the revised masonry and concrete sections of the State Building Code.

One of the most important changes is that Wisconsin has adopted, by reference, the American Concrete Institute building code requirements A.C.I. 318-63, A.C.I. 512-67 and A.C.I. 525-63. We feel this move gives the designers a greater freedom in the use of high strength concrete. However, it also puts certain restrictions on concrete design that were not a part of the previous state code. The A.C.I. codes have definite rules for reinforcement, edge distances, size of reinforcing bars, and deflection. It should be noted, in particular, that deflection was not a design criteria before this revision.

Another important change in the new code allows the use of metal-tie reinforcements as a substitute for brick headers every sixth course as a bond in masonry wall construction. The use of metal ties, however, is considered a minimum code requirement and to date we have no convincing evidence to show that the "life span" of the metal-tie is any greater than approximately 20 years. If you are designing a building with a designed use of greater than 20 years, we strongly recommend that bonding be done by some other method than the use of the specified No. 9 ga. metal-ties. Only corrosion resistant metal-ties with a coating equivalent to 0.8 oz. per sq. ft. of surface area are allowed. Uncoated No. 9 ga. metal ties are not acceptable.

(Continued on page 25)

PORTRAITS IN BLOCK

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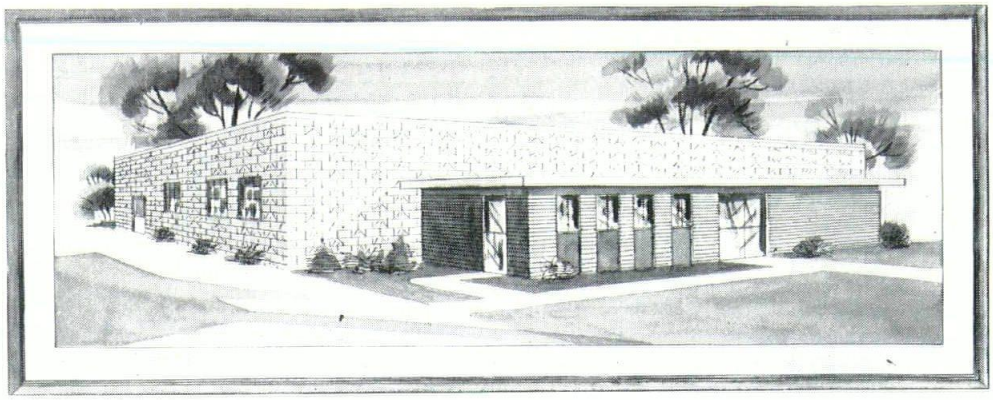
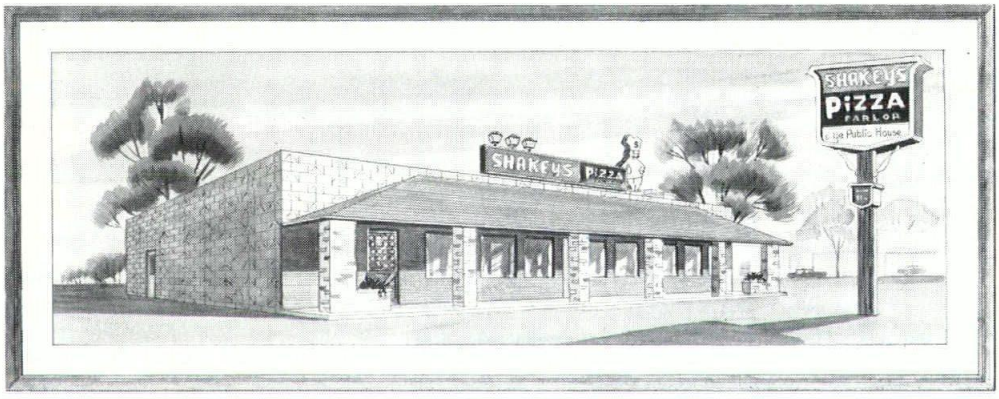
Architect: Birch-Grisa-Phillips, Inc., Milwaukee





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Architect: Louis Kingscott, Madison

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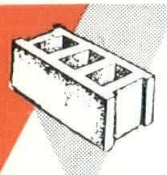

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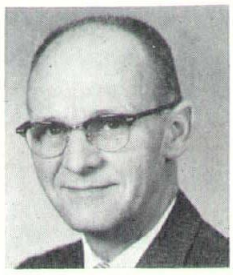
Robert L. Yarbro

Thomas L. Eschweiler



John P. Jacoby

On the first day of the first month of each year, newly elected officers of the Wisconsin Chapter, A.I.A. and its four Sections take office. For reasons of continuity it is not uncommon for the vice-president to be elected president for the next term and for the secretary-treasurer to move into the position of vice-president. This system provides each officer with experience and thorough knowledge of the policies and operational procedures acquired during at least two years of attending regular monthly meetings of the Executive Committee, the governing body of the Wisconsin Chapter, A.I.A. The outgoing president serves an additional year on the Board in an ex-officio capacity offering additional continuance. Officers for the four Sections are in general elected in a similar fashion. The Executive Board members are elected from all four Sections with equal representation. Officers for the Wisconsin Chapter for 1968 are Larry Bray of Sheboygan, President; Bob Yarbro of Oshkosh, Vice-President, and Tom Eschweiler of Milwaukee, Secretary-Treasurer.

Officers of the Southeast Section are: President, George A. D. Schuett, President; E. William Johnson, Vice-President, and John F. Funck, Secretary-Treasurer. In the Northeast Section Richard P. Linde was elected President, Leonard Urban, Vice-President, and Richard E. Gustafson, Secretary-Treasurer. The Northern Section re-elected Grant J. Paul, President, Brian F. Larson, Vice-President, and Roderick A. Nelson, Secretary-Treasurer. Elections for the Western Section were not completed at our deadline date and we shall report the results of that election in the February issue.

The Board members presented Joe Durrant with this AIA Service Award, reading: "Presented in commemoration of his esteemed service and for his knightly fortitude, acute cognizance and irreproachable perseverance pursuant to the architectural profession and stuff like that!"

Joseph G. Durrant is leaving the Executive Committee after three years serving as Vice-President, President and in the ex-officio position on the Board.

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Celebrating

50

years of Architectural Registration

1917-1967 1917-1967 1917-1967

The Wisconsin Chapter, The American Institute of Architects, observed the 50th anniversary of architectural registration in the State of Wisconsin with a testimonial dinner in honor of the 13 original registrants of 1917, on November 28, 1967, at the Welch's Embers in Madison.

Over one hundred guests came to honor their colleagues who during the past 50 years have been part of the development of the architectural profession in the State. Five of the original registrants of 1917, accompanied by their wives, attended and were presented with recognition certificates by the Wisconsin Chapter, A.I.A.

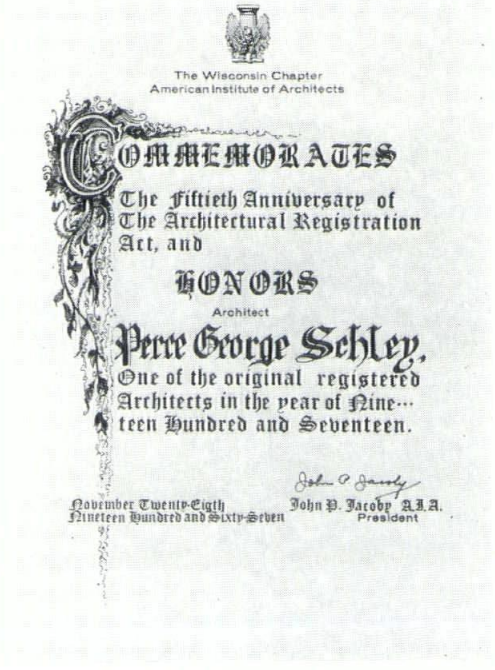
Among the guests were members of the State of Wisconsin Examining Board of Architects and Professional Engineers, its Executive Secretary, Mr. Cass Hurc and his wife, Mrs. Walter Kwapil, Secretary to Mr. Hurc, and her husband. Mr. Mark Purcell, A.I.A. — a long time member of the Examining Board — toastmastered the event and Mr. Edgar Berners, F.A.I.A. related significant developments during the past 50 years that the Registration Law has been in effect. (See page 16.)

The program was prepared by a special committee with Allen J. Strang, F.A.I.A. as chairman. Mr. Strang and his committee members deserve high praise and special mention for master-minding this festive evening and seeing it through its stages of development.

The program started out with entertainment by the University of Wisconsin Singers, a thirty-number chorus newly organized on the Madison Campus by Professor Don Neuen.

Mark Purcell, A.I.A. introduced the participants in the program, Mr. Eugene R. McPhee, Director of Wisconsin State Universities, representing the State of Wisconsin; Dean Kurt Wendt, Chairman of the Wisconsin Examining Board of Architects and Professional Engineers who spoke on the "Future of the Professions," urging cooperation between architects and engineers. John P. Jacoby, immediate past-President of the Wisconsin Chapter, A.I.A. presented the recognition certificates.

Recognition Certificate, designed and executed for all 13 original registrants by James Barker.


The Wisconsin Chapter
American Institute of Architects

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The Architectural Registration
Act, and

HONORS

Architect

Perre George Schley,

One of the original registered
Architects in the year of Nine-
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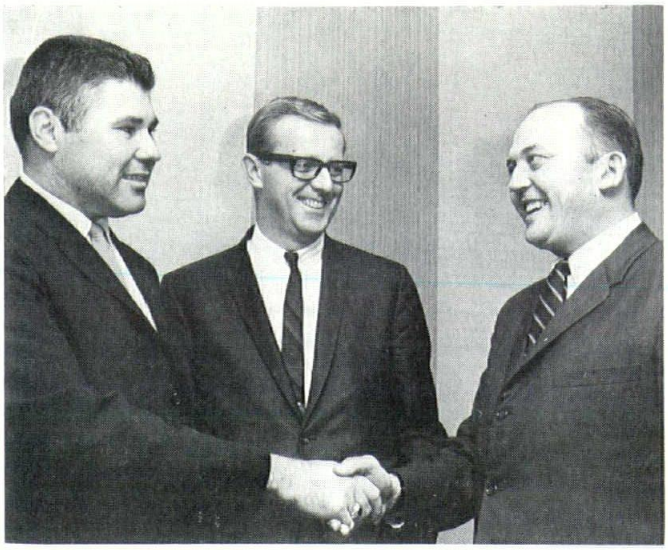
November Twenty-Eigth
Nineteen Hundred and Sixty-Seven

John P. Jacoby A.I.A.
President



Among the guests were the newly elected officers for the Southeast Section, Wisconsin Chapter, A.I.A. l. to r. John F. Funck, Secretary-Treasurer; E. William Johnson, Vice-President and G.A.D. Schuett, President.

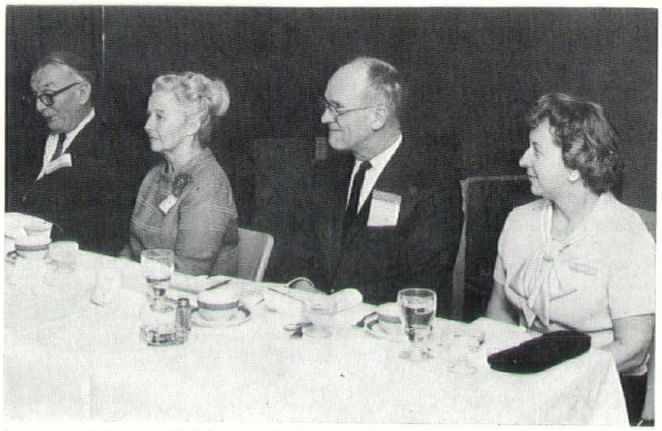
Sprite, spunky and full of enthusiasm, the University of Wisconsin singers brought much delight to the event.

Mr. and Mrs. Lawrence E. Bray of Sheboygan. Mr. Bray is President of the Wisconsin Chapter, A.I.A.

Jack Klund conversing with Mr. and Mrs. Gilbert A. Johnson, A.I.A., one of the original registrants, now living in Rockford, Ill.

l. to r. State-Architect, Shinji Yamamoto, Mrs. Yamamoto, Mrs. Culbertson and Mr. Culbertson, Head of the Bureau of Engineering.

l. to r. Mrs. G. A. Johnson, Mrs. Zagel and Mr. Zagel and Mr. Walter Memmler (Mr. Zagel and Mr. Memmler are original registrants.)



l. to r. Mr. and Mrs. McPhee, John P. Jacoby and Mrs. Jacoby.

l. to r. Dean Kurt Wendt and Mrs. Wendt, Mr. and Mrs. Edgar Berners.

l. to r. Mr. Karl Schubert of La Crosse, Mrs. and Mr. Nerdrum. Mr. Nerdrum was a member of the special committee in charge of the event.

l. to r. Mr. and Mrs. Rose with Mrs. and Mr. Roger Kirchhoff, one of the original registrants and former State Architect.

l. to r. Original registrant Martin Schneider and Alex Cuthbert, member of the special committee.

Mr. and Mrs. Allen J. Strang. Mr. Strang finding a moment of relaxation after weeks of hard and concentrated work, preparing the evening.

Two designers: a resume

John Reiss and his wife, Lois Ehlert, shared the gold medal given in 1967 by the Art Directors Club of Milwaukee in its annual competition for the best design work in this area. Before that, each was recipient of numerous top kudos in New York and Chicago as well as here, and both have exhibited widely.

Lois was a scholarship student at the Layton School of Art all through her four years there. She took her BFA degree at the University of Wisconsin-Milwaukee and thereafter worked in several local studios. For several years, she has been represented by a leading artists' agent in New York City. Although her work has been quite diverse, she is especially known for her children's books. Her work has been widely publicized. Recently, the Minneapolis Tribune did a picture layout of costumes she made of washable felt for the Moppet Players of the Minnesota City. The day before Christmas, The Milwaukee Journal's rotogravure section featured holiday illustrations by her.

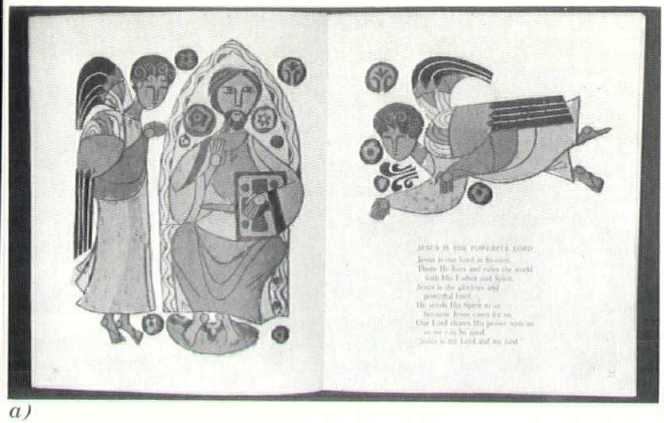
John was an honor graduate of Milwaukee State Teachers College, served in the USAF, and then studied for two years at Black Mountain College under such outstanding artists as Albers, Lustig, Charlot, Motherwell, DeCreeft, Zadkine, Feininger. He worked in New York City before returning to Milwaukee where he worked briefly for art studios and received statewide attention for a breathtaking exhibition of 150 prints by artists of 22 countries, an event he organized in three months! In 1957, he began to create catalogs for the Milwaukee Art Center which brought that institution and him national recognition. He has traveled widely in this country and in 1960 visited the important art centers of Europe. His work was seen in Europe, Asia and Africa the following year, in a Graphis Magazine *circulating show.*

John Reiss, the designer of the excellent format of this magazine, and his wife of 3½ months, the former Lois Ehlert, stand among the best of the talented and innovative *mass media* artists of today. Not long ago they would have been designated *commercial* artists or designers, but the newer description seems more adequate.

Unlike the *fine* artists of today who prefer to create autonomous art, designers like John and Lois seek and accept tasks given them by society. They are among the immense numbers of largely unsung — but powerful in their influence — contemporary artists who use their creative powers and art skills to illustrate and lay out books and magazines, to develop more attractive and functional products, to communicate ideas, to stimulate selling or public interest, to arouse support for causes, to elucidate and make eye-catching and memorable reports and catalogs that otherwise might go unnoticed, unread and unkept. As I observed recently in an article on the Layton School of Art (of which Lois is a graduate), the art of such artists must serve a defined and thought-through purpose; it must produce results; and it is destined generally for obsolescence, to make way for something newer or changed. Their art is an integral sector of our swiftly developing economy, which is more widely based than any of the past and has helped bring about a higher standard of living for a greater number of people. And, because these artists are part of a complex economy that depends upon relentless and rapid change, their art must be precisely contemporary every step of the way. So, challenged by stiff competition from their peers all along the way, these artists must be research-minded, sharply intuitive, open to current tastes and ways, and concerned with measurable results. And, like artists of all times, they must be eager to create order and beauty.

John and Louis meet all these requirements. Each is a pronounced individual, but they share delight in elegance, which embodies clarity, dignified unusualness, grace—resulting all together in tasteful opulence. Their shared penchants are expressed, too, in their designed way of life: willowy Lois' high style mode of dress, their stunning apartment at 839 N. Marshall St., the parties they give, the community activities they participate in.

Individually and together, they are characterized by rare determination and by innate generosity. They recently have worked together on several projects, examples of two of them illustrated on following pages. In a series of 14 work books for Whitman Publishing, Racine, which will be distributed in 1968, they combined photography with their designs to produce uniquely inviting and challenging aids to learning phonics, reading, word mastery, the new math. For Benziger Bros., N.Y., they used ink resist techniques with torn tissues to create visual lessons of, "Jesus with Us," adapting the Byzantine style to suggest both the



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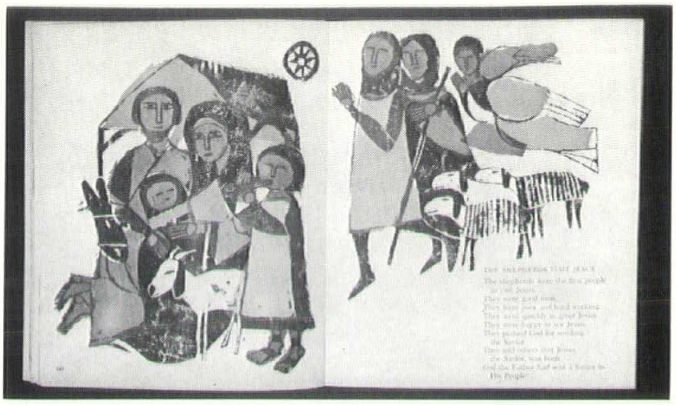
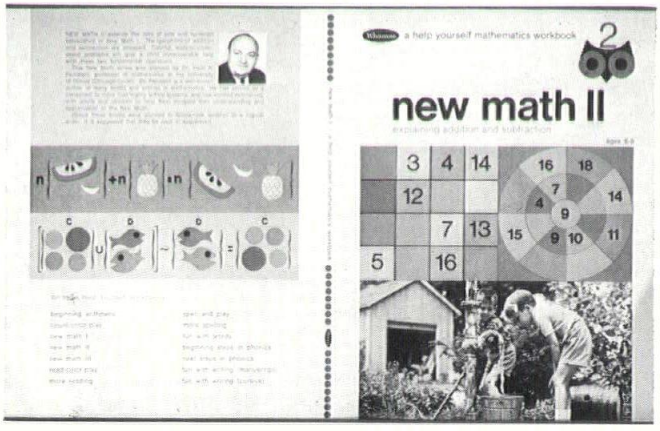
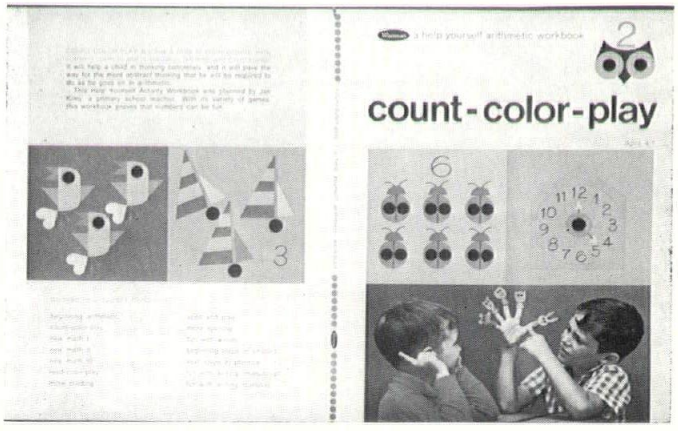


b)

a) and b) "Jesus with us" Book Two of a series used for religious training in schools. 10⅛" x 8¼", Ink resist and torn tissue. Benziger Brothers, N.Y. Helen Wohlberg, N.Y. Agent. 1966. A collaborative effort by Lois and John.

Below: left and right: Two of a series of 14 educational workbooks for Whitman Publishing, Racine, 1968. Photographs and full color art. Design on the right by Lois, on the left by John Reiss.





mystery and the power of faith to young minds and emotions.

Paradoxically, sophisticates often retain childlike understandings and enthusiasms to a remarkable degree, and Lois and John evidently are among these. Lois taught in the Layton School of Art young people's Saturday classes during her four years there and came away with sound knowledge of children-cum-aesthetics which she has used to sound advantage in her books for youngsters: "I Like Orange," "Making Music Your Own," "Animals to See," "Limericks by Lear," and "What Is that Sound?" For several Whitman child-directed books, she devised ingenious punch-out puppets, paper toys, origami constructions, stickers for a perennial calendar, scissor shapes and such. For Will Ross, Inc., a Milwaukee hospital supply company, she designed a comfort box to be given to hospitalized boys and girls, to contain toiletries and little treasures.

Adult readers receive Lois' attentions and insights as well. This past year she designed and illustrated, for Heath, of Boston, a college-level French reader, "Potpourri de Lectures," which is made up of excerpts on cooking, science, literature, etc., that lend themselves to lively perusal. For this, she created 68 charming pen and ink illustrations.

Color has a special radiance in the hands of both Lois and John. However, one of John's most widely used designs was in black and white, a strong symbolic monogram for Milwaukee's 1967 "Project: Negro Achievement." A recently completed children's book, which he now is submitting to publishers, is "Name the Color," and hue is paramount, of course, in conveying visually such messages as "Yellow is mellow, like baby chicks, squash, lemons, bumblebees and bananas, daffodils, daisies and buttercups." Text as well as illustrations are by him, as they were in a unique catalog by him for an exhibition two years ago at the Museum of Contemporary Crafts, New York City. Every page was in a different two-color combination with black, some lyrically subtle and others brilliantly surprising. Illustrations were craft items made by designers of all ages on the theme, "Amusements is. . . ." and the text was replete with such whimsicalities as, "Aubrey! I told you to use sparkplugs instead of fireflies." The commission from The American Craftsmen's Council for this came because his catalogs for craft exhibitions for the Milwaukee Art Center received national recognition.

Indeed, John's catalog designs for many of the Art Center's top shows — among them the Hirschhorn Collection, Leff Collection of Exotic Art, the Bradley Collection — did much to put that institution on the nation's aesthetic map, reputation wise. Many are still requested by other art museums. His white-on-white embossed cover design in a sales catalog for Luminous Ceilings, Inc., Chicago, done along with Noel Spangler (who was Lois' instructor at the Layton), illustrates the handsome elegance he projects in his work for industry and business.

Lois J. Ehlert

c) Painting I, One of a series of art instruction books for children. 11⅛" x 9-3/16". Photographs and children's art. Whitman Publishing Co., Racine, 1966

d) "Animals to See," A children's counting book. Torn tissue paper, 7" x 6⅛" Whitman Publishing Co., Racine, 1964

e) "Limericks by Lear," A children's book. Torn tissue, oragami paper and monoprint. 11½" x 8⅜" World Publishing Co., Cleveland and New York, 1965

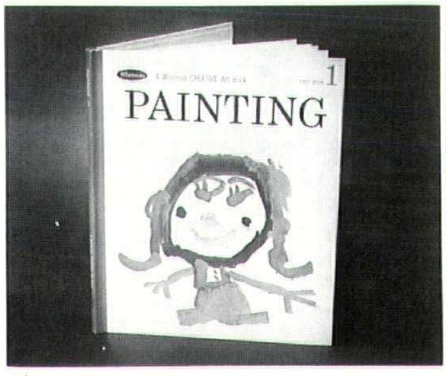
f) "Calendar Sticker Fun" Cello-tak and oragami paper 12" x 10¼" Whitman Publishing Co., Racine, 1965

g) "What is That Sound!" A children's book. Pen and ink, 9¾" x 6¼" Atheneum, N.Y., Helen Wohlberg, New York Agent, 1966

h) Children's comfort kit for hospital use. Three colors and screens, 5⅜" x 8" x 3½". Will Ross Hospital Supply Co. Milwaukee. Holsen Mueller Studio Agency, 1966.

i) "Scissor Shapes" A paperfolding book for children. Full color and line art. 11" x 13⅜", Whitman Publishing Co., Racine, 1965.

j) "Potpouri de Lectures" A College French reader, Pen and ink, 9⅜" x 6⅛". Heath & Co., Boston, Helen Wohlberg, New York Agent, 1967



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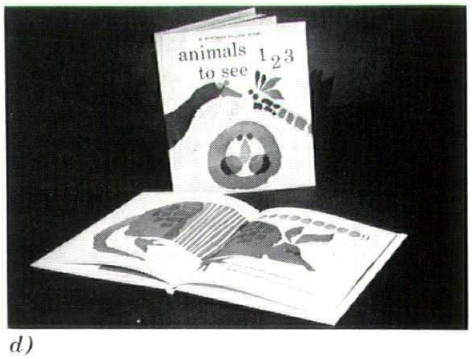

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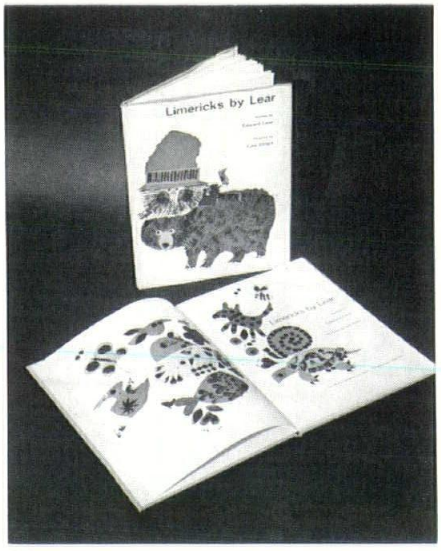

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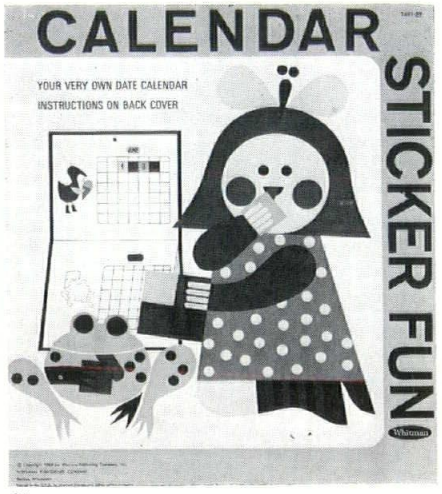

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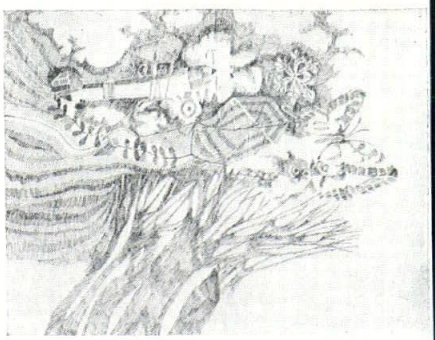

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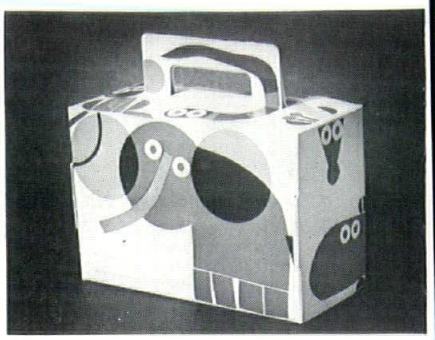

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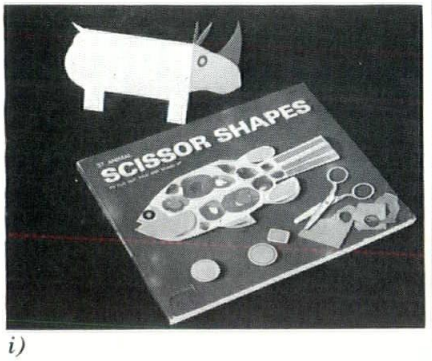
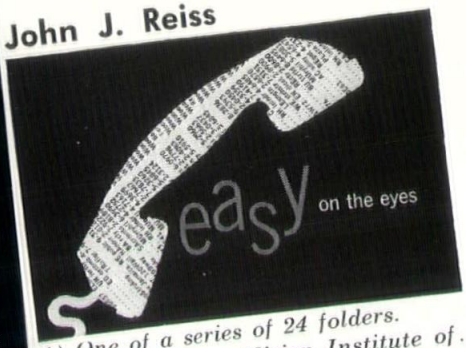


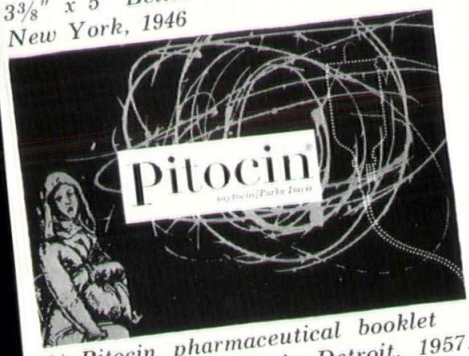
i)

j)

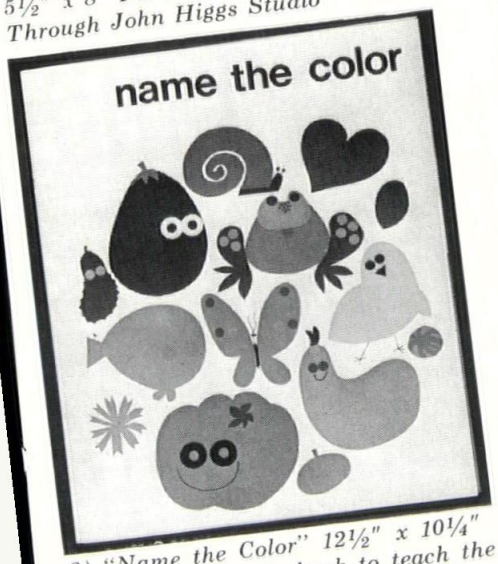
John J. Reiss



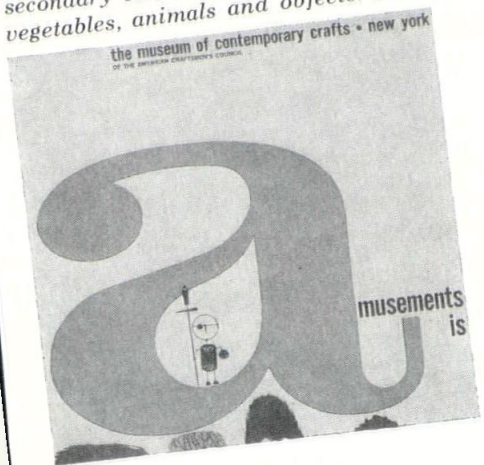
1) One of a series of 24 folders. 3⅜" x 5" Better Vision Institute of. New York, 1946



2) Pitocin pharmaceutical booklet 5½" x 8" Parke-Davis, Detroit. 1957. Through John Higgs Studio



3) "Name the Color" 12½" x 10¼" proposed children's book to teach the child to identify primary and secondary colors by using animated vegetables, animals and objects. 1967.



4)

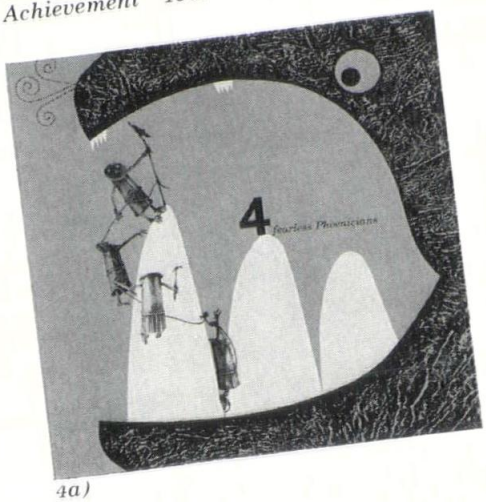
Left to right: 1958, 1960 and 1963 catalogs for Wisconsin Designer Craftsmen exhibitions at the Milwaukee Art Center. Sizes vary from 13" x 4¼" to 11" x 4¼". The 1958 catalog was selected by Graphis magazine, Switzerland for inclusion in their traveling catalog exhibition to be shown throughout Europe, Asia and Africa.

4) and 4a) "Amusements" catalog 8⅜" x 8⅜" Nine different colored inks on nine different papers using photos of toys in the exhibition. Museum of Contemporary Crafts, N.Y., 1964

5) and 5a) "Total Environment Ceilings," 1967 11" x 8½" Thirty-two page sales catalog with exploded views and projections printed in 3 colors. Luminous Ceilings Inc., Chicago. Van Handel Agency, Milwaukee. Art Directors: Noel Spangler and John Reiss.

6) "Common Medical Terminology" 7⅜" x 4½" Abbott Laboratories, Chicago, 1958. Through John Higgs Studio.

7) Symbol for "Project: Negro Achievement" 1967



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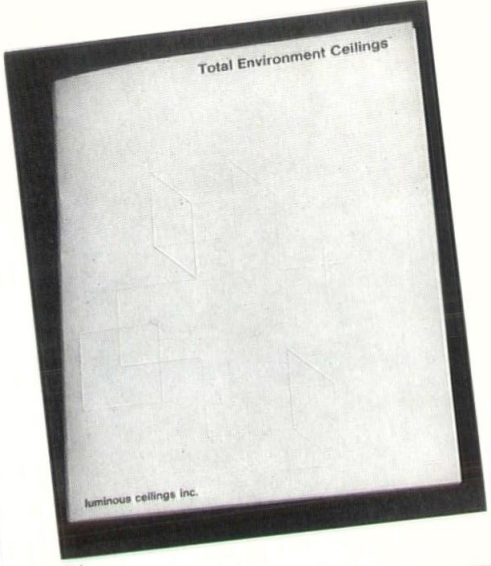

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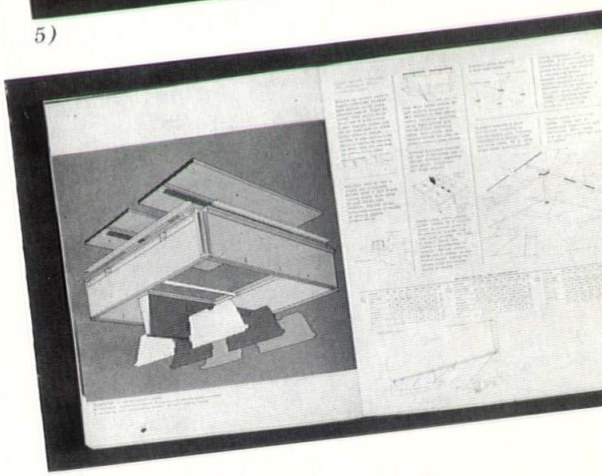

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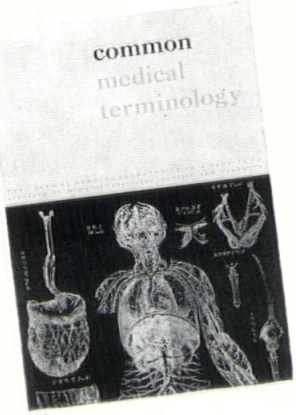

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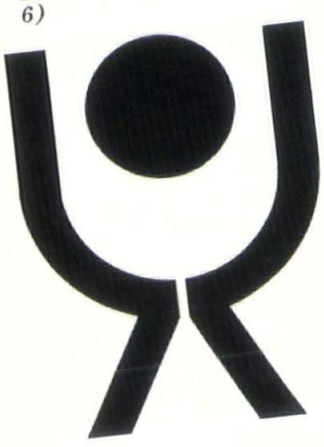


7)

A history of the Wisconsin Registration Law

Edgar H. Berners, F.A.I.A.

Architects registration is a subject looked upon with mixed feelings on the part of those who become concerned with it. To the recent graduate and those who achieve a degree of proficiency thru the apprenticeship process it is either a goal to be achieved or a bar to their immediate realization of their ambitions. To the unskilled and unscrupulous, ways and means must be found to enable them to circumvent the intent of the law, and surprisingly, at times they are assisted in this endeavor by some who should be alert to resist such efforts. To the public it frequently gives a feeling of false security based on the assumption that registration as an architect automatically assures a client of competent services. Then there are those, many of whom are motivated by good intent and idealistic purpose, and others who are motivated by selfish or ulterior purpose, who constantly seek to change the law or the methods of administration of the law.

It would be interesting and enlightening to many of us if we could look back into the minds of those who were interested in our first Architects Registration Law and thus learn what it was that caused these men to bring into being Wisconsin's first Architects Registration Law 50 years ago.

The question might be asked, why do we need a Registration Law for architects? The recent graduate of an accredited school of architecture, or one who has recently completed his apprenticeship program, may be of the opinion that he is now well equipped to go forth and enter the field of practice of architecture without further hindrance. In exceptional cases this may be true, but the broader experience of Registration Boards in conducting examinations shows that the average candidate requires the additional preparation needed to pass minimum standards set by the examinations, and thus demonstrates that he does have not only fundamental knowledge in the field, but equally important that he has the ability to apply that knowledge in practice.

There may be many statements pro and con relative to the merits of a Registration Law, and there have been times when it appeared that the Law would be weakened thru legislative action, that Board Members were of the opinion that the profession and the interest of the public would be served as well without a law. However, when consideration is given to the complexity of modern building and the intimate knowledge required to interpret modern methods of the construction, the conclusion is that the public has a right to know that those who hold themselves to be proficient in the field of modern construction have passed the test of certain minimum standards. Thus, public health, welfare and safety have become the basis of most registration laws, especially where the law involves license to practice.

Nothing herein is intended to imply that registration as an architect by itself is a guarantee of satisfactory and competent performance. The criteria for examination in most laws is related to a passing grade of 75, and in some instances, as low as 65. Thus, the standard

for registration is low. Perfect or near perfect scores in individual examinations are frequently made. Yet, there are those who would contend that the standards are too high. After registration actual performance must be better than 75%. The fact that registration can be revoked should act as a deterrent to those who would otherwise be inclined to assume their responsibility lightly.

Here in Wisconsin we have in addition to registration, a set of rules of standards that govern building construction and thus are related to the practice of architecture. Long before many other states adopted similar rules, this state thru its then Industrial Commission, adopted a building code to set forth minimum standards of construction for all types of buildings.

Not withstanding the combined safeguards of a registration law, and competent administration of the Building Code, the public does have the final responsibility of judgment in their selection of professionals to assist them in their building problems.

When I accepted the invitation extended to me by Allen Strang to come here to review the history of the Wisconsin Registration Law, thoughts crossed my mind as to what could one possibly talk about, especially since there have been many periods in which neither the Law nor the Board would win popularity contests. The thought did occur that I could reminisce about some of the more pleasant experiences that have been mine as a Member of the Board, such as the very great privilege of being exposed to the excellent counsel and advice by those who were on the Board when I was first appointed to it. Men you will recall as having contributed much to the profession and the public in this state — Gerritt De Gellecke, Peter Brust and Roger Kirchhoff. Or later the exchange of experiences with Roger Kirchhoff and Ralph Kloppenberg, Mark Purcell, Jim Galbraith, Karel Yasko, and Frank Wilson, in addition to the many very fine and capable representatives of the Engineers Division, at meetings of both divisions of the Board.

I could tell about some of the experiences of meetings of both divisions, especially those in which Gerritt De Gellecke and Charlie Halbert would disagree about a matter, but how they would leave a meeting arm in arm after having resolved their differences. There could be some discussion of the many long hours spent in the preparation of examination questions, and the grading of same. Or I could go on to tell how after a particularly hard day of board work when at dinner Mr. De Gellecke would relieve the built-up tensions by relating the experience of practice before Registration Laws, especially the days during which he made calls on clients by means of horse and buggy and the frequent mud holes encountered en route.

An enlargement of these experiences in detail would be meaningful only to those who were permitted to share them at the time. With the exclusion of such reminiscence nothing more is left except a review of the history of our Registration Law and its effect, not only here in Wisconsin but nationally as well.

The first Registration Law was enacted in 1917. It provided for the registration of architects but did not restrict the practice of architecture. This is what is commonly known as a title law. This law remained in effect until it was superseded by Section 101.31 in 1931.

The records show that the organization meeting of the newly appointed Examination Committee was held in Madison on August 2, 1917. The meeting was called and presided over by S. J. Williams of the Industrial Commission. Mr. A. C. Eschweiler was elected chairman, Mr. Arthur Peabody, Secretary, and the other members of the committee were A. C. Class and H. A. Foeller. This Committee formulated standards for registration and upon payment of the initial dues of $5.00 each, became the first registered architects in Wisconsin. The Examination Committee of the Board appointed by the Industrial Commission included the Dean of the School of Engineering of the University of Wisconsin, Dean Turneaure.

The minutes of the first meeting recognized Chapter 644 Laws of 1917 as the authority for the Board to proceed. The minutes further show that, — "After January 1, 1918 no person shall use the term architect, or represent himself as an architect, without a Certificate of Registration." The Act further provided then, as it does now, that Board Members be entitled to no compensation except for travel and other necessary expense.

The Act provided qualifications for registration as:

Any person 21 years of age of good moral character may apply. Before securing a certificate, the candidate shall submit satisfactory evidence of having acquired:

1. A thorough knowledge of sound construction.
2. Building hygiene.
3. Architectural history and mathematics.
4. Submit evidence of not less than five years of practical experience in the office of reputable architects.
5. Upon complying with the above requirements the applicant shall pass an examination in such technical and professional courses as are established by the Board of Examiners.

The Act also provided for the Board to accept graduation from a recognized school or college plus three years of experience in lieu of the examination.

So after 50 years there have been some refinements, and the Act itself may be many times as long, but the basic requirements remain. This must be attributed to the competence and foresight of those men involved in having the legislature approve the first Registration Law for architects.

Fifty-eight were included in the initial list of persons certified by the Board. At subsequent meetings this number was increased to 125 as being certified in the first year. Certificates of Registration, at that time, were issued by the Industrial Commission, which also had the right of revocation.

Of that initial group of 125 persons, 13 are listed in the last annual report as currently registered. We have come here tonight to honor these men and appropriate recognition will be given to them later during this program.

Sometime during the year of 1928 certificates for

registration were issued by the Architects Board of Examiners in lieu of the Industrial Commission.

In 1931 Section 101.31 of the statutes was created. It provided for the registration of architects and civil engineers. The law established qualifications for registration as an architect and civil engineer and restricted the practice of these professions to persons who were properly qualified.

The late John Flad was particularly active in support of the basic principle of this bill.

In 1935 Section 101.31 was amended and the term civil engineer was deleted and provision was made to register professional engineers. This revision of the law also defined the practice of professional engineers and restricted the practice of professional engineers to Industrial Buildings and the structural parts of other buildings in the field of building design.

In 1943 Section 101.31 of the statutes was again amended to further define the practice of architecture and professional engineering, and to restrict the use of titles of architect and professional engineer.

In 1949 the law was again amended to clarify the working of the statute and to revise the qualifications for registration as an architect or professional engineer. This revision also provided for certification of engineers in training. The amended section also provided for the use of an injunction to prevent unlawful practice.

In 1955 Section 101.31 was amended to revise the definition of the practice of professional engineering. This revision removed the former restriction relating to building design and permitted professional engineers to design all types of buildings. The Law, at that time as it does now, opened the field of building design to all professional engineers. Under this revision of the statutes, professional engineers can practice in the field of building design although their qualifications may be in an unrelated field. It has been stated that the true professional would not accept the assignment in a field in which he was not qualified, and that therefore the law was not at fault. The fallacy of this statement is borne out by a recent resolution of the Board which admonished registrants not to accept commissions for work in fields in which they are not competent. The resolution is addressed to engineers and architects alike, thereby indicating probability of problems with each of the professions.

The 1955 amendment also provided for the registration of land surveyors and established the qualifications for practice.

In 1966 the statutes were again amended with the principal change relating to corporate practice. This revision provides for qualification of corporations that offer to perform through registered persons the practice of architecture or engineering. The prior law required majority ownership of stock in a corporation by registered persons to permit a corporation to offer to practice with the further provision that the actual practice be carried on under the responsible direction of one or more registered persons.

The revision relating to corporate practice became necessary because of the problem the Board faced, largely related to but not necessarily limited to large corporations engaged in the manufacture of products, wherein the term engineering was used in the firm name over a long period of time.

This problem was quite foreign to the general practice of architecture and in the opinion of many was not a required change as it related to the practice of architecture. Architectural firms which had a preference for the corporate form of business procedure experienced no difficulty with the former law. Only time will tell whether or not some of the changing aspects of architectural practice would have required such a change or whether the revisions have provided a device for those not qualified to enter the field of architecture as a business venture under the protection of corporate provisions of the law. It is true that plans for buildings must bear the seal of a registered person but there is grave concern as to where control or responsibility has shifted.

Other minor revisions of the law have been made from time to time and, in addition, the Board has adopted rules to implement the enforcement of the law and resolutions to clarify the intent of the law.

Members who served on the Board during this time were those mentioned earlier who served on the first Board. In addition, Fitzhugh Scott, Sr., John Flad, James Law, Gerritt De Gellecke, Peter Brust, Roger Kirchhoff, E. H. Berners, Ralph Kloppenburg, Mark Purcell, Karel Yasko, James Galbraith and the present Board Members, Frank Wilson, Paul Graven, Paul Brust and Shinji Yamamoto. Secretaries who have served the Board were Mr. Peabody, C. A. Wilson, Mrs. Josephine Hughes, W. A. Piper, and an interim appointment for Mr. Kwapil as acting secretary and the current administrator for the Board, Mr. Cass F. Hurc.

In addition after the passage of the law to include the engineering profession, the Dean of the School of Engineering, by virtue of his position, was Chairman of the Joint Board and therefore a member of the Architectural Division. These men were Deans Torneaure, Johnson, Withey, and the current Board Chairman, Dean Kurt Wendt.

During these years of administration of the affairs of the Wisconsin Registration Board, members were ever mindful of the changing economic conditions as well as changes in the practice of architecture.

Improved methods of travel and economic development brought about conditions that prompted members of the Wisconsin Board to join with other states in discussions relating to reciprocal registration. These discussions demonstrated the need for a means whereby a man whose qualifications to practice had been established could, without further examination, be permitted to practice in another state.

In 1920 Emory Hall of Illinois together with other states who joined the discussion, formed what is now known as the National Council of Architectural Registration Boards, or NCARB as the Association is generally referred to. From its early limited membership this organization has grown to include all states of the Union and the territories.

Wisconsin has participated fully over the years in the affairs of NCARB and has made significant contributions to its growth and development. Wisconsin

has been honored, in turn, by having three members of the Wisconsin Board elected to the office of President of NCARB. Mr. Arthur Peabody was the first Wisconsin member to serve in that capacity; some years later Mr. Roger Kirchhoff was elected to that office, and it was my privilege to serve two consecutive terms in 1957 and 1958.

For many years NCARB operated under the personal direction of its then secretary, Mr. William Perkins of Chariton, Iowa, who maintained the offices of NCARB in his converted garage. Mr. Perkins rendered an excellent service and maintained the organization in a solvent situation, while accumulating a financial reserve which forms the foundation for NCARB's financial stability today.

With Mr. Perkins passing it became apparent that the council was in need of drastic re-organization and much of the organizational structure of NCARB today is due to the diligent and timely action of representatives of the Wisconsin Board acting together with members of other selected boards.

Members of the Wisconsin Board have been alert to required changes in the format and grading of the examinations. NCARB recognized the value of these changes and many were incorporated into the current syllabus of NCARB examinations today.

Board members recognized early that in order to make reciprocal registration truly effective, there was a need for a responsible and equitable method of grading, in addition to some degree of uniformity in examination content.

Under the direction of Mr. Kirchhoff of the Wisconsin Board and thru the assistance of Mr. Ralph Kempton of the Ohio Board, member boards were encouraged to bring to the annual meetings of NCARB typical examination problems in the section related to design and the candidates solution of these problems.

Exposure of Board Members of the several states to these many approaches to the design problem led to discussion and ultimate format for a better statement of the exam problem and a degree of uniformity in grading.

This was but the first step toward the NCARB exam program of today, which includes design and site development examinations on a regional basis and all other sections of the examination based on objective type of exam, produced by Educational Testing Service of Princeton, N.J., with assistance from committees of NCARB.

Wisconsin played an important role in the development of the objective type of examinations. Mr. Kirchhoff together with Mr. Fred Markham of Utah served as a committee to study methods for developing the objective type of exam. This Committee recommended to the annual convention of NCARB in Los Angeles some 15 years ago that the services of ETS be engaged to develop the program.

At the prodding of Roger, other delegates from Wisconsin offered the motion to appropriate the money to implement the program. From a very small beginning this program of objective examinations has grown to a point where all states now use the examinations in whole or in part and the cost of the service has grown from the small initial appropriation of $2,000.00 to last year's cost of slightly less than $100,000.00. To make this program truly effective, member states which use the ETS examinations should return all exams to ETS for initial grading.

A continued search for a more uniform quality in other parts of the examinations brought about the regional type of examination in design and site development. This was first introduced in the Western Conference of states. Currently, every member board is associated with a region of NCARB. Wisconsin participates with Illinois, Minnesota, Michigan, Ohio, Missouri, Iowa and Kentucky. The program for the first regional design exam in which Wisconsin participated was written by Mr. Kloppenburg of the Wisconsin Board. Recently, the Wisconsin Board thru the active participation of a number of Wisconsin architects performed the task of initial grading of the most recent exam in design for all of the states in this conference or region. Hopefully, NCARB looks forward to the day when design and site development exams change to the objective type.

The effect of all of this is that when a candidate passes an examination in Wisconsin, he has qualified under the same exam content given in other states and therefore reciprocal registration when needed is more readily attained.

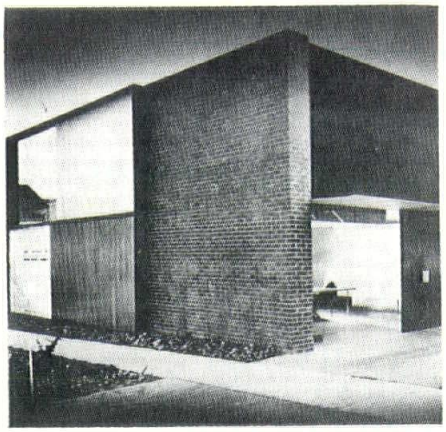
The number of Wisconsin registrants has grown from that initial group of 1917 to last year's registration list of 1,117. Last year's report shows that 91 architects were registered in Wisconsin during the year. Of this number 15 were registered by means of the Wisconsin exam. This would indicate that 76 were registered by reciprocity. Of the Wisconsin registrants more than 100 are listed in the last NCARB report as holders of NCARB certificates and no doubt many more have council records.

The 1967 Board Report shows that of the 1,177 persons registered as architect, 647 list their place of residence other than Wisconsin. These non-Wisconsin residents list 34 different states and one foreign country as their place of residence — Illinois has the greater number with 255 followed by Minnesota with 133, Michigan 49, New York 33, Ohio 31 and the balance scattered with the Virgin Islands and Sweden each having one listed.

The numerical statistics indicate the great growth in the number of members in the profession in Wisconsin and the facility of reciprocal registration. The record of the Wisconsin Board and NCARB indicates that quality growth has kept pace with the numerical growth and the changing conditions in the practice of architecture.

We, as a profession and the public in general are deeply indebted to those men of 1917 who had the initiative to propose our first law. And to you members of the first group of registrants of the year 1917 may I offer my congratulations and that of those assembled here for your participation in that first effort, for your continued interest in the profession, and the many contributions you have made over the years to the advancement of the profession in the interest of a greater service to the public.

Building: problem or pleasure



There are buildings and there is architecture, but the two terms are not necessarily synonymous, according to The American Institute of Architects, national professional society of 21,000 architects in the United States. Anyone embarking on a building project, whether it be a family planning to build a new home, a businessman constructing an office, or a minister building a church, wants a structure which encompasses both the science and art of building — and that is architecture.

How to achieve it, and how to select and work with an architect, are explained step by step in a brochure "Your Building & Your Architect," just published by AIA. Written primarily for the person, company or group involved in a first building project, it explains how to choose an architect, what his role and responsibilities are, and how to work with him for the most satisfactory results.

The booklet is an abridgement of a series of articles originally published in "The Architectural Forum" and copyrighted by Urban America, Inc. They were written by Donald Canty, then senior editor of "Forum," and now director of the Urban Information Center of Urban America and editor of its magazine "City." Significantly, Mr. Canty is not an architect. Therefore, his is a candid view of how both clients' and professions' interests can be best served.

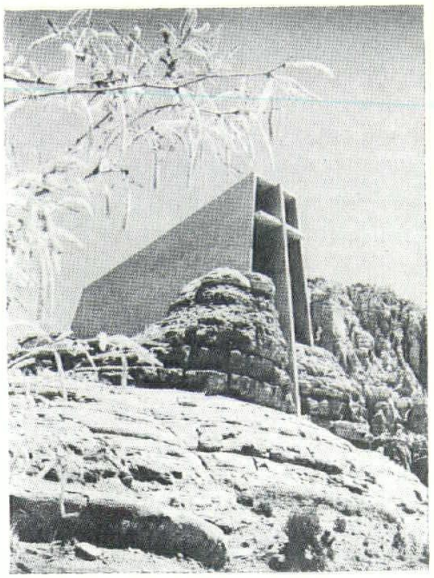
On page one of the first article, Mr. Canty notes, "Many a client who starts out with a desire to be a party to greatness winds up a patron of mediocrity. . . ." His purpose is to detail the pitfalls or pleasures which accompany the building process.

Selecting the architect, he notes, is the most important decision that the client will make. A multi-million dollar project might solve this with a formal competition, but the single-building customer will need to shop. Specific suggestions — such as looking at other new buildings of the same type he wants, talking with friends who have recently built, checking with the local chapter of The AIA if it has awards programs, going through architectural magazines—start him on the right track.

The articles go on to detail the interviewing process with prospective architects to insure that the client selects one with whom he can work empathetically. The client is told what to look for in other buildings designed by that architect, and what to ask their owners. "The more time and thought the client puts in," cautions the writer, "the less likely he is to make a mistake in his choice of an architect, the results of which can only be a building that neither looks, feels, nor works well. And that is a terribly prominent, terribly permanent, kind of mistake."

Turning next to what the architect does and how to pay him, the booklet describes his function — from ascertaining the requirements of the project through the final construction. Drawings, blueprints, schematics, specifications, bidding . . . are all discussed, as is a commonly used method of payment. Drawn largely from an AIA publication, document B131—"Standard Form of Agreement Between Owner and Architect," the pages set forth the responsibilities of the architect.

The novice client may be greatly



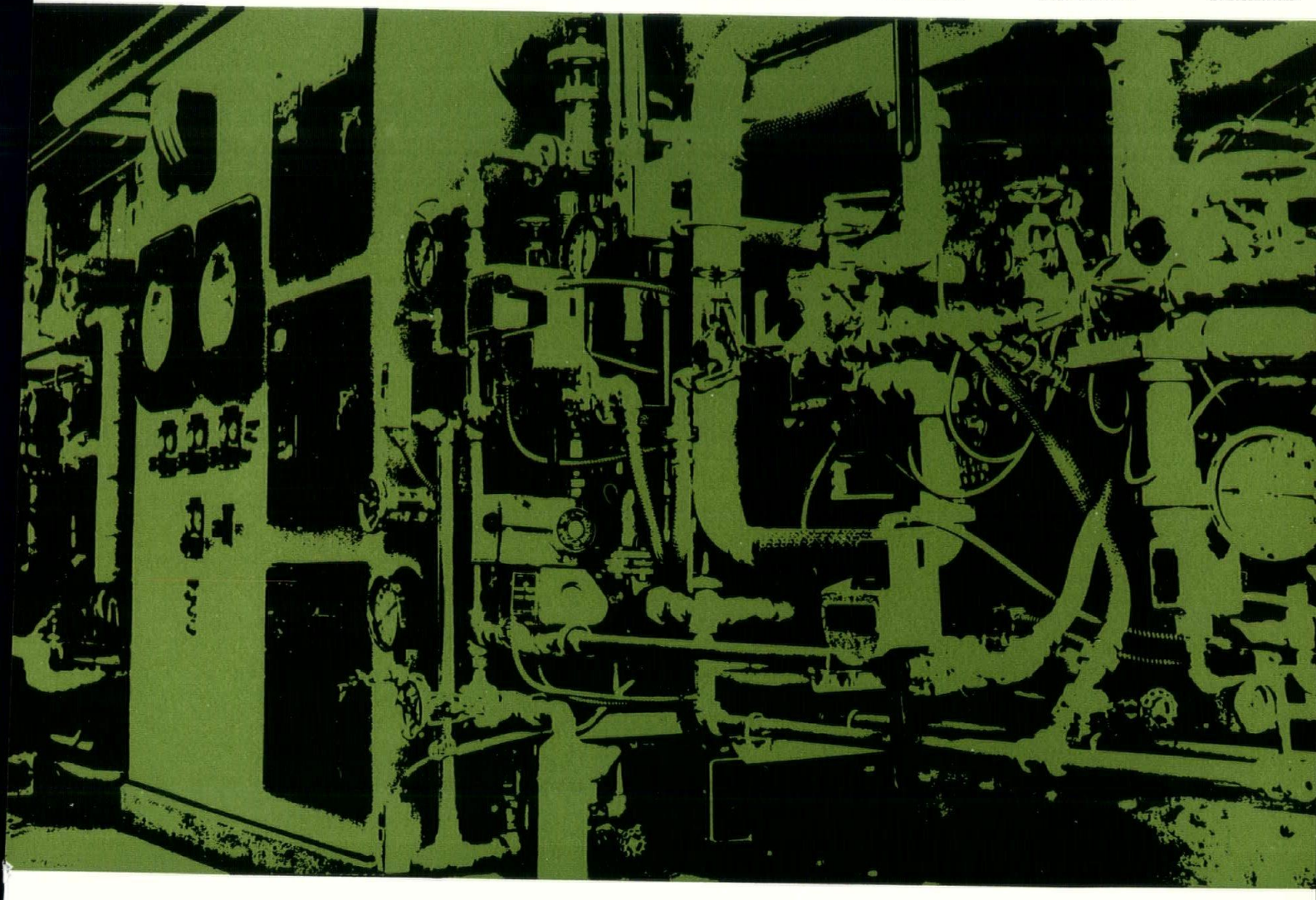
surprised at the depth of detail and work which the architect can save him, as he learns the extent of services provided. The architect's role extends far beyond the drawing board stage. The wise client will know what to expect and how to work with him.

"The client brings an unmatched knowledge of how he likes to run his building," live in a home, sit in a church. . . . "Even though he may not be a reigning expert in his field, he knows better than anyone else what kind of routine, what kind of facilities, suit him best," the booklet points out. "The architect, for his part, brings to the table the entire range of professional skills for which he was chosen. . . . He carries a mental catalog of materials, equipment and structural systems. . . . He is also likely to have the ability to take lines and dimensions and intuitively translate them into spaces, predicting with some degree of accuracy how the spaces will look."

Your architect should be able to balance functional space planning, sound engineering, and aesthetic appeal. "The architect, then, has a lot to learn about every new building situation." That is why

(Continued on page 33)

HEATING VENTILATION PROCESS PIPING PLUMBING AIR CONDITIONING FIRE CONTROL DUST CONTROL SYSTEMATICS



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A Concrete Gesture

Since 1963 the Best Block Company, Milwaukee, has made an annual contribution of $1,000 to Wisconsin Architects Foundation. President Paul F. Bronson has expressed his appreciation of the Foundation's aid in helping deserving Wisconsin students of architecture to further their education and the untiring efforts to establish a School of Architecture in the University of Wisconsin. Each year he has sent a letter to customers advising of the donation "in the spirit of making a contribution to our industry" in lieu of favors at Christmas-time. A friendly presentation of the check is made at a luncheon early in December. This gratifying continued interest and support of the work of the Foundation are a most valued incentive which is emulated by a number of other organizations associated with the profession. Mention of such contributions received in December will be reported in the February issue of WISCONSIN ARCHITECT.

UW-Milwaukee

An informal luncheon meeting was held on November 21 in Milwaukee between local representatives of the Foundation and Dr. J. Martin Klotsche, Chancellor U.W.-M., and Theodore J. La Tour, Director of University Relations. The purpose was a discussion of the letter from the University which was quoted in December WISCONSIN ARCHITECT in which support of the new School of Architecture was requested of the profession. The University members were assured of consideration of assistance in the development of a scholarship program and funds for research.

In Memoriam

Contributions to Wisconsin Architects Foundation were made in memory of the following during 1967:

Theodore L. Eschweiler
George E. Foster
C. J. Caddell
Lydia V. Ames
Henry J. Brown
E. A. Lambrecht
Nathan Pereles
Terry Manz
Franklin D. Mabbett
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John J. Flad
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Mrs. Louis Allis
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Mrs. Julius Sandstedt
Malcolm K. Whyte
Mrs. Arthur L. Schwalm
Rufus C. Brown
Henry Held

Grants

Five Wisconsin students, who are receiving their architectural training out-of-state, will be provided with the second half of their Tuition Grant of $400 early in January. They are:

John Kreishman — Wauwatosa — Washington U.
Robert Bealmeer — Milwaukee — Washington U.
Robert DeBruin — Appleton — U. of Detroit
Louis A. Stippich — Milwaukee — U. of Detroit
Tom Jensen — Wauwatosa — Cornell U.

It should be noted that all are attending non-state-supported universities. Those students attending state-supported institutions were dropped when the State of Wisconsin began providing similar tuition aid for that category in 1966. Messrs. Kreishman and Bealmeer are expected to graduate in June. The continuation of the other three until graduation is under serious consideration, despite the fact that the Foundation intends to confine future student assistance within the State of Wisconsin with the advent of the new School of Architecture at U.W.-Milwaukee which begins September 1968.

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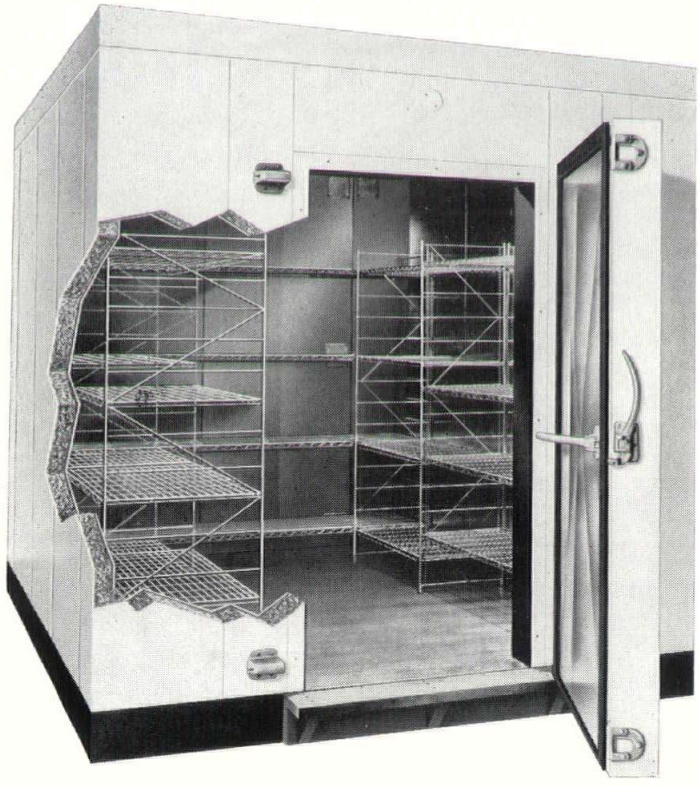

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DEGREE: *University of Cincinnati — BS of Arch.*

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Alonzo Robinson
BORN: *March 5, 1923*
RESIDES: *Waukesha, Wisconsin*
FIRM: *DeQuardo-Robinson-Crouch Assocs., Inc., Waukesha*
DEGREE: *Howard University, Washington, D. C. — B. of Arch.*
New Member

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BORN: *May 12, 1931*
RESIDES: *Waukesha, Wisconsin*
FIRM: *DeQuardo-Robinson-Crouch Assocs., Inc., Waukesha*
New Member

Keith E. Brink
BORN: *August 25, 1935*
RESIDES: *Madison, Wisconsin*
FIRM: *Weiler, Strang, McMullin & Associates, Madison*
DEGREE: *BS — Central College, Pella, Iowa; B. Arch. — Iowa State University*
New Member

Frank Bartak
BORN: *September 3, 1922*
RESIDES: *Milwaukee*
FIRM: *Employed by City of Milwaukee, Bldg. Insp. & Saf. Engrg.*
DEGREE: *BS — Lt. Bldg. Industry — University of Wisconsin*
New Member

Paul H. Ament
BORN: *October 15, 1946*
RESIDES: *Madison, Wisconsin*
FIRM: *Weiler, Strang, McMullin & Associates, Madison*
New Member

Paul A. Hagel
BORN: *January 21, 1937*
RESIDES: *Middleton, Wisconsin 53562*
FIRM: *Weiler, Strang, McMullin & Associates, Madison*
DEGREE: *B. of Arch., North Dakota State University*
New Member

Fred W. Haines
BORN: *January 5, 1940*
RESIDES: *Madison, Wisconsin*
FIRM: *Weiler, Strang, McMullin & Associates, Madison*
DEGREE: *B. of Arch., University of Illinois*
New Member

Robert A. Keck
BORN: *February 21, 1938*
RESIDES: *Milwaukee, Wisconsin*
FIRM: *Maynard W. Meyer & Associates, Milwaukee*
DEGREE: *B. of Arch. with distinction, University of Minnesota*
New Member

John M. Rakocy
BORN: *October 7, 1941*
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FIRM: *Maynard Meyer & Associates*
DEGREE: *B. of Arch., University of Illinois*
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(NOTES OF THE MONTH)

(Continued from page 5)

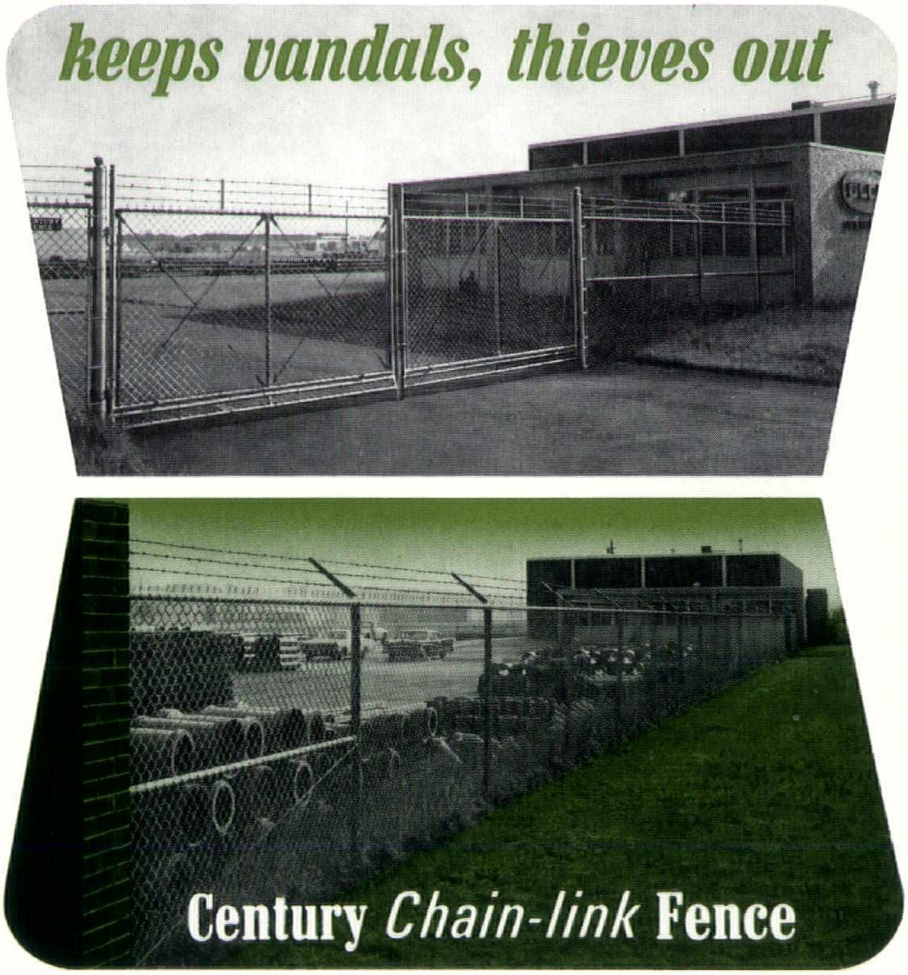
The code has been changed considerably with respect to the height and wall thicknesses of hollow concrete masonry. In effect this part of the code should be separated into two lines of thought. First, the handbook method of design, as outlined in the table on page 61 of the new code, limits the design of a 12-inch hollow masonry wall to 18 feet in height and a maximum span of 40 feet. If joists are placed on top of this wall they are limited to 6 ft. spacings with a reinforced bond beam. The second part of this thinking, however, is noted on page 62, paragraph 53.09 (8)(1) which states that the minimum thickness of masonry bearing walls may be decreased, except for walls below grade, and the height or length to thickness ratio may be increased when data is submitted to our department which justifies a reduction in the requirements specified in this code. What we are, in effect saying, is this: If you are designing a masonry building that exceeds the limits of the criteria shown in the tables, please present calculations showing that the building is safe on a performance basis.

The December issue of *The Construction Specifier*, monthly publication of the Construction Specifications Institute, has for its "Green Sheet" topic; "Specifying: Demonstrations: Completed Electrical Systems," (CSI Document 1601). This document deals with the problems of specifying demonstrations or the showing of the actual operation of electrical systems (after they are installed, tested, inspected and found to be in good working order) for the benefit of the owner.

Other feature articles include the first of a three-part series on professional building practices; a critique, "Part I: State of the Industry Today," by Russell W. Cornell, FSWAC, former Executive Director of the Specifications Writers Association of Canada; another Alice in Blunderland article, the third in a series, "Classroom Discussion" which discusses the wording of specifications, by Anne Clendenning, CSI, mechanical engineer and specifications writer for the Ralph M. Parsons Co. of Los Angeles; "Coordination Checklist for General Construction, Mechanical and Electrical Specifications" by Edward Zekala, CSI, head of his own firm in Port Chester, N. Y.; "A Method of Designing With Computers" by Alfred Marden, an Associate of the Baltimore (Md.) firm of Ernie Moritz & Associates, and an article from The Aluminum Association, New York, on "Aluminum as an Electrical Conductor."

The CSI Specifications Series, a new compilation of all CSI Technical Documents published to date through October, 1967, has been published and is now available. In making the announcement of its availability the Construction Specifications Institute said that the Specifications Series was complementary to the Institute's successful Manual of Practice published in early 1967.

(Continued on page 33)



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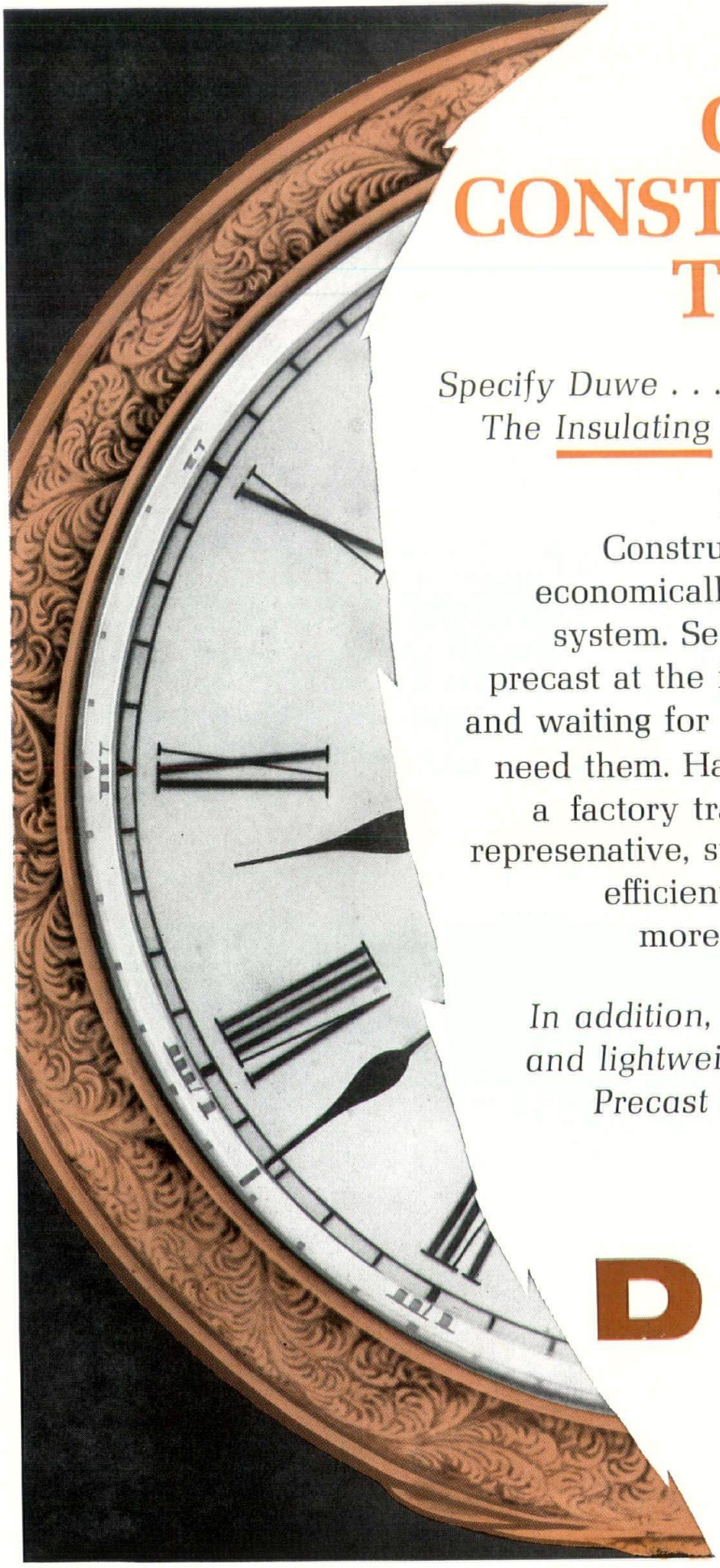

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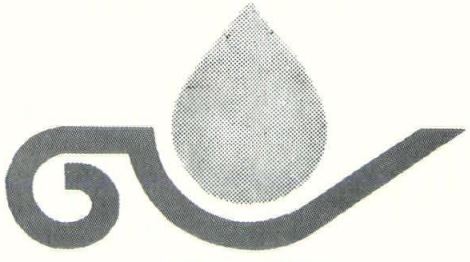

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What's happening in WAL?

In an effort to keep abreast with what is happening in their husbands' profession, the women of the Women's Architectural League are embarking upon their third year of "Study Sessions." These sessions are prescribed by the Architectural Education Committee which, this year, has as its chairman Mrs. Joseph Legan, Jr. (Kay). Her committee members are Mrs. Ryland Koets (Liz), Mrs. Terrance Mooney (Janet), Mrs. Genesio Simotti (Paula), Mrs. Ray Story, Jr. (Pam), and Mrs. Jerome Walkowski (Catherine).

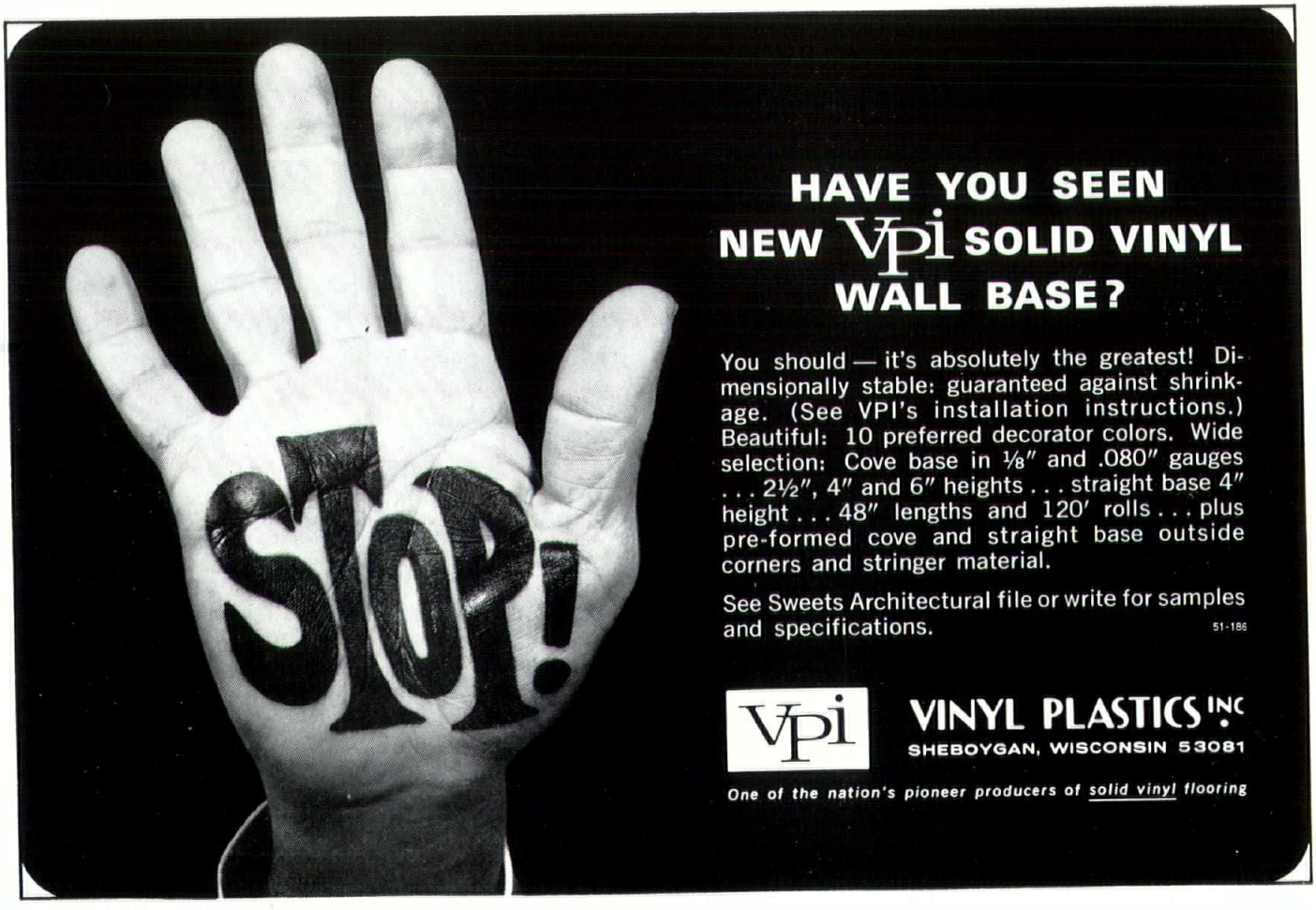
The title of this year's ambitious undertaking for self-enlightenment is *The City in Cinema*. During the past two years, the women busied themselves by studying, as their text, Steen Eiler Rasmussen's book "Experiencing Architecture," as well as related reading.

Now, in '67, the women are using as their format films from "Lewis Mumford on the City" series. In order to "break the ice" for studying together, the season was opened with get-together coffees which were graciously served at the homes of Gabi Eschweiler (Mrs. Tom) in the afternoon and Pat Sandhoefner (Mrs. Russell) in the evening on September 19.

Guided by a bibliography, the gals are "boning-up" by reading articles in the many architectural magazines as well as Mumford's book, *"The Highway* and the *City*." They had their first opportunity to exchange ideas on what they had read on the evening of October 10 in the tastefully remodeled home of Bev Blake (Mrs. Richard). After coffee, tea, and delicious home-baked sweets, baked by the membership, the group of about 35 women in attendance saw Mumford's film "The City: Cars or People?" which very vividly portrayed what the expressways are doing to the great cities of our nation with the increased flow of vehicles into already-congested urban communities. Unless better planning, changes in tax structure, better use of land close-in, and elimination of ghettos are employed, these extensive ribbons of expressways converging into our cities may have a calamitous effect upon them in the years to come. Cities must be made accessible for meeting and mixing without allowing transportation to make it congested and uninhabitable, as the private motor car now threatens to do.

After the showing of the film, the women were divided into mini-groups for open discussion with Marion Carter, Shirl Kurtz, and Lana Sielaff as discussion leaders.

The second study session was held on November 16 at the home of Mrs. Robert Gahl whose attractive open-plan duplex made a fine setting for the next Mumford film, "The City as Man's Home." It presented the slums, giant public housing complexes, mass suburbs, anonymous and bleak luxury apartments which are resulting in the lowering of communal standards of living in our cities, in spite of the rise of living standards.



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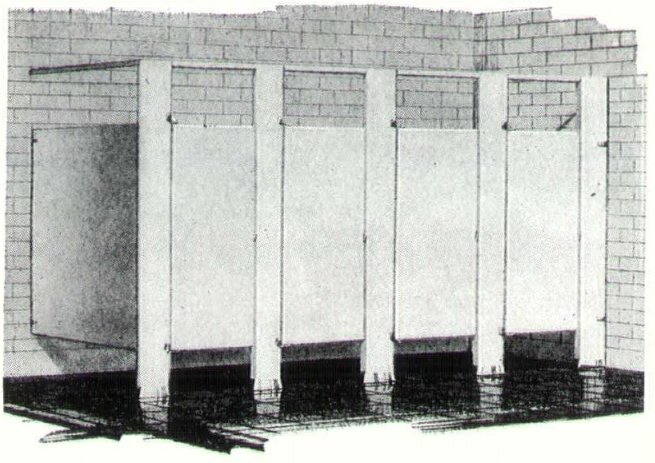

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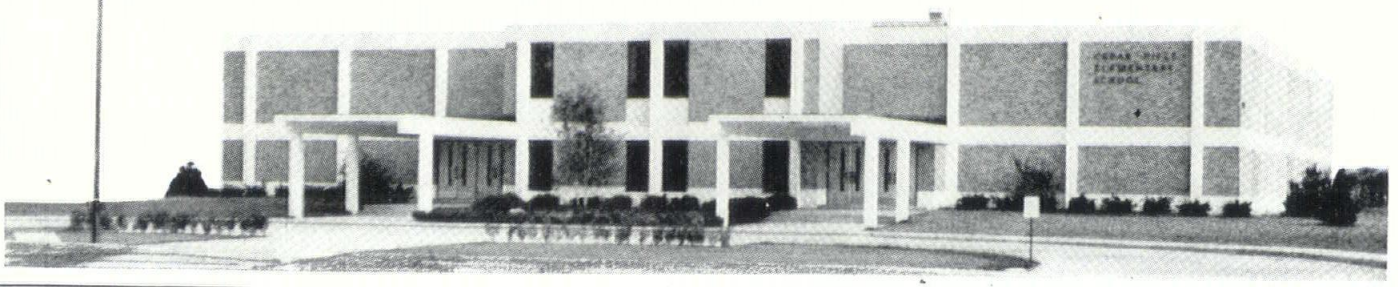

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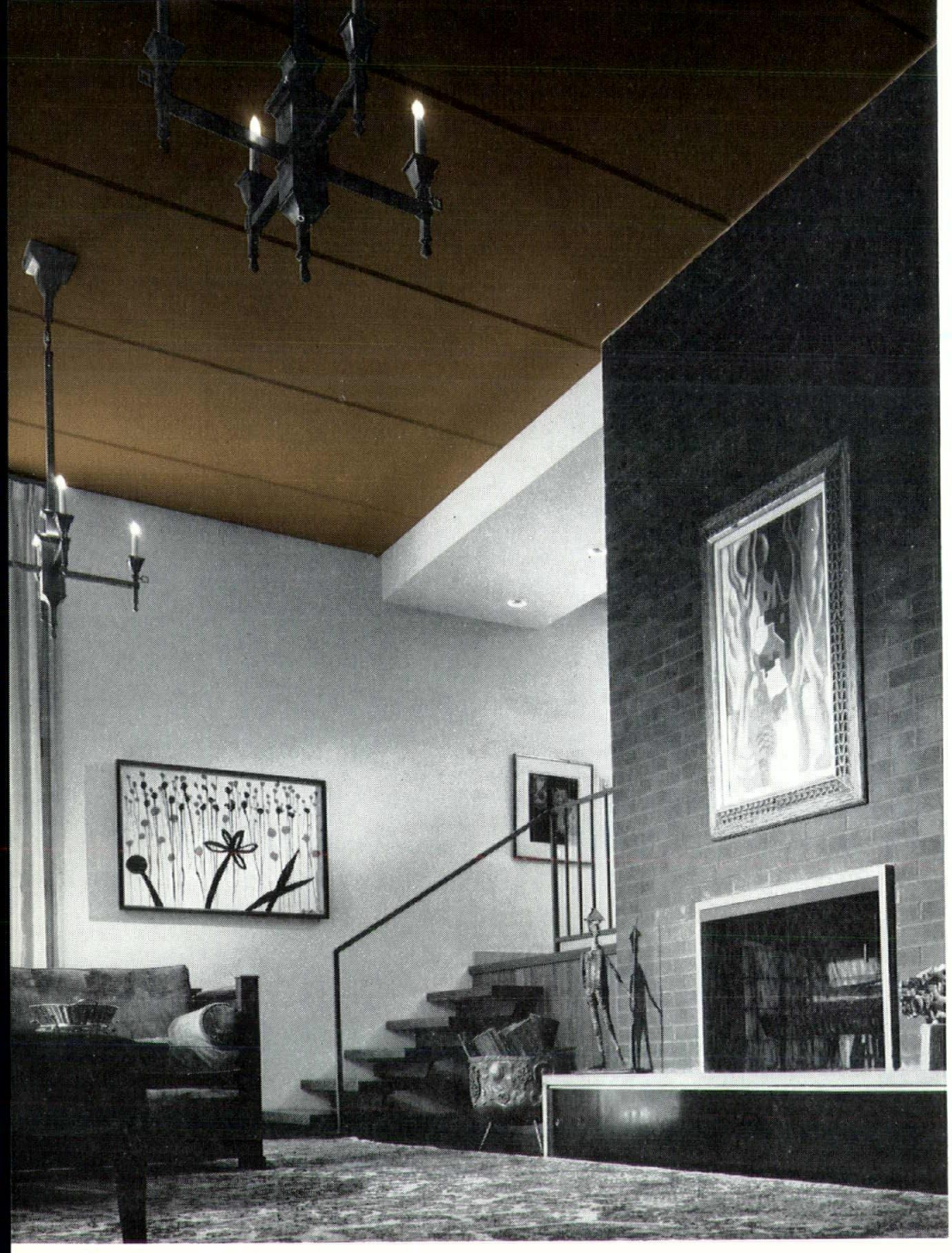

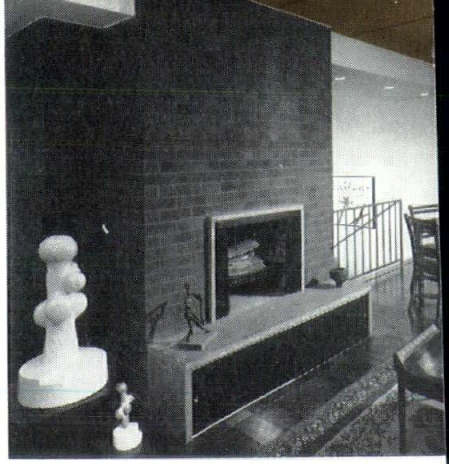

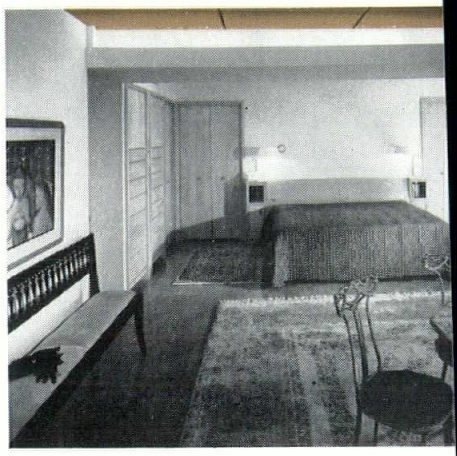

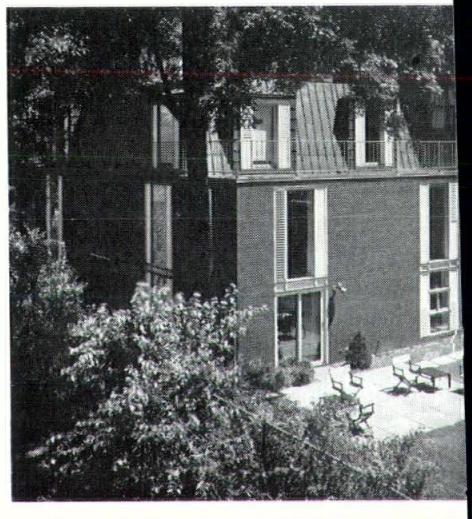

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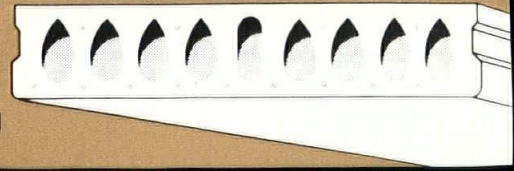

BUILDING: PROBLEM OR PLEASURE?

(Continued from page 20)

you will want to know what he does and how you can work with him.

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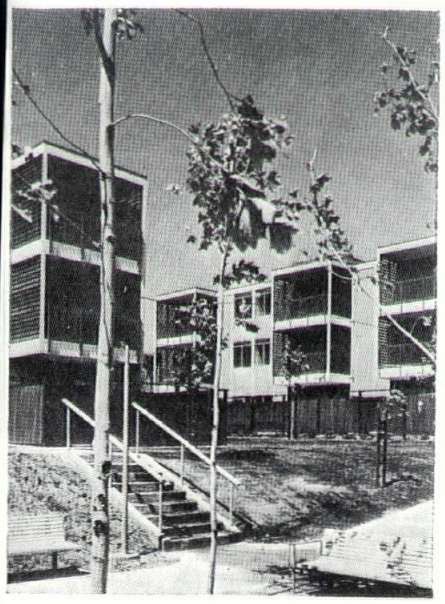

timid client "who suddenly blurts out the suppressed feeling that he has always hated one kind of paneling and would like another type instead." As the booklet points out, the "most effective safeguard . . . is the desire of most building professionals to do good work, and to maintain reputations it has taken years to build."

As the national professional society for architects, The American Institute of Architects is vitally interested in seeing that building clients, be they corporate czars, a school board or single home owners, go through the maze of the design and construction process as smoothly as possible. AIA has published this booklet to so guide the prospective builder. It paints what could be the garden path through a situation of unending variables. As Mr. Canty concludes, "building is never easy, but neither is it ever dull."

Copies of the booklet are available to those interested in building from Information Services, The American Institute of Architects, 1735 New York Avenue, N. W., Washington, D. C. 20006.

NOTES OF THE MONTH

(Continued from page 25)

The Specifications Series documents are used as guides for writing the various parts of the specifications and in conjunction with the Manual of Practice make up a complete up-to-date library of all CSI Documents.

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905 — Specifying Portland-Cement Terrazzo: Cast-in-Place Floors

906 — Specifying Wall Covering: Laminated-Plastic, Field-Applied

1001—Specifying Flagpoles: Metal

1501 — Specifying Fire Dampers

1502 — Specifying Metal Louvers: Stationary

1503 — Specifying Duct: Sheet-Metal, Low-Pressure, Air Transmission

A Milwaukee, Wisconsin, resident, Louis Anthony Stippich, is the recipient of a Blumcraft of Pittsburgh Scholarship awarded by The American Institute of Architects for the 1967-68 academic year.

Stippich, of 4585 N. 49th Street, received the $300 grant for continued study at the University of Detroit's School of Architecture. The Blumcraft of Pittsburgh Scholarship comes from a $3,000 annual scholarship fund established by the designers and manufacturers of railing and grille systems and is administered by The American Institute of Architects.

AIA's Committee on Scholarships, headed by Elliot L. Whitaker, AIA, Director of the School of Architecture at Ohio State University, selected Mr. Stippich. The Committee awarded a total of $28,850 in scholarships for the advancement in architectural education.

The Department of Architecture of The University of Michigan is pleased to announce the availability of two additional fellowships for graduate study in the areas of Architecture and Planning:

WELLS BENNET MEMORIAL FELLOWSHIP $5,000

A group of distinguished alumni and friends of the College have established a Fund for Graduate Fellowships in Architecture to support the award of a memorial fellowship in the name of Wells I. Bennet, Dean of the College of Architecture and Design from 1938 to 1957.

C. ALLAN HARLAN FELLOWSHIP $4,000

The C. Allan Harlan Fellowship, sponsored by Mr. Harlan and the Harlan Foundation, is to be awarded to a student of ability and promise in the field of Building Technology.

Inquiries regarding the availability of the Fellowships should be addressed to the Chairman of the Department, Professor Jacques C. Brownson. The deadline for submittal of applications is February 1, 1968.

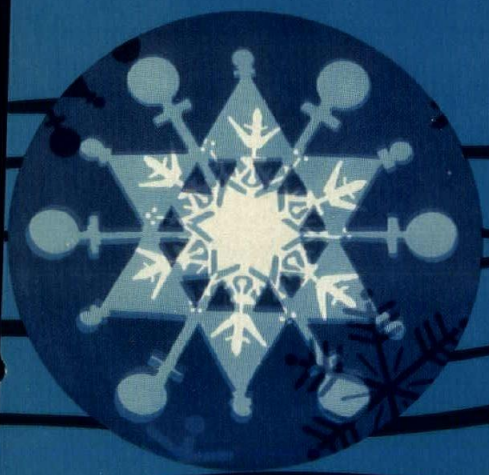
CONSULT WITH US FOR CENTRAL AIR CONDITIONING AND HEATING EQUIPMENT. RESIDENTIAL, COMMERCIAL AND INDUSTRIAL APPLICATIONS. ELECTRIC, GAS AND OIL.

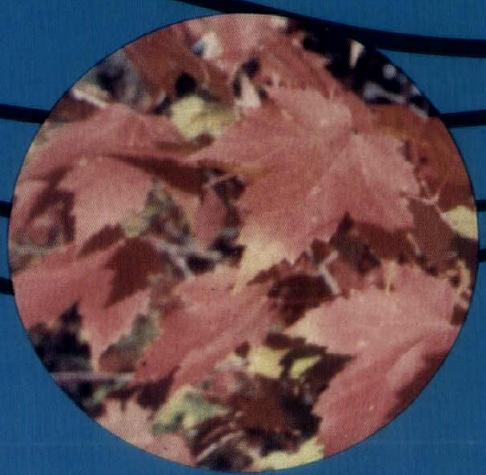
CONTACT THE
GENERAL ELECTRIC CO.
940 W. ST. PAUL AVE.
MILWAUKEE, WIS. 53233
PHONE 276-8010

R. J. McEvoy
Manager-Air Conditioning & Heating

Air Conditioning & Heating

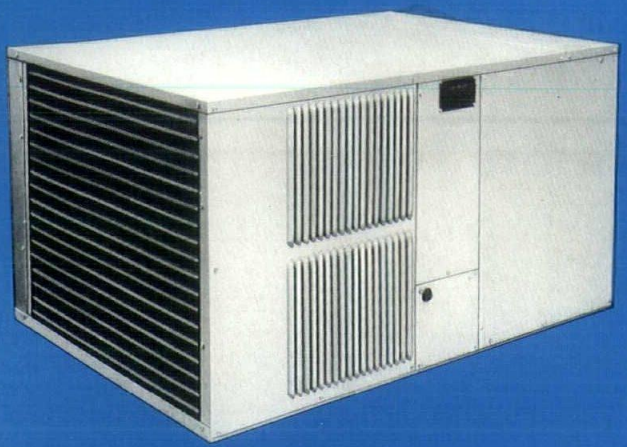
1968 Catalog





Single Package Systems

Year 'round comfort and convenience in a space saving package to fit virtually any requirement.



TC024A, TC030A (Shown), TC036A
WC024A, WC030A, WC036A

WC048B (Shown), WC060B
TC048B, TC060B

Central Air Conditioners—Single package systems offer unequalled application flexibility. They can be ducted, or with optional grille/filter frame, used "in space." With the addition of optional accessory duct heaters, they provide year 'round comfort. Single Package Central Air Conditioners can be installed through the wall, on the roof or on a slab at ground level. Refrigerant factory charged to simplify installation.

Features General Electric heavy duty compressor—exceptional reliability. Long-life lubricated blower bearings. Easy installation.

Weathertron® Heat Pumps—The General Electric Single Package Weathertron is a complete factory charged all-weather heat pump, that provides year 'round comfort and convenience for homes, commercial and industrial buildings. Offering new freedom in design since it uses electricity as its sole energy source, a Weathertron needs no costly gas piping, flues, or chimneys. Can be installed through the wall, in attic or on a slab at ground level. Weathertrons provide a selected indoor climate year 'round automatically—the finest in "set it, forget it" climate control.

Used in multiples, Weathertrons effectively cool and heat large stores or commercial buildings with the added advantage of zone-by-zone temperature control. The reliability of GE Weathertrons have been proven by thousands of installations over the past 25 years, in all climates.

SINGLE PACKAGE AIR CONDITIONERS

Ratings	TCO24A	TCO30A	TCO36A	TCO48B	TCO60B
Cooling Cap., Btuh*	23,000	30,000	36,000	48,000	60,000
Air Flow, CFM @/H_2O (Indoor)	860 @ .28″	1000 @ .17″	1200 @ .26″	1800 @ .38″	2250 @ .35″
Volts, Phase, Cycles	230/1/60	230/1/60	208-220/3/60 230/1/60	208-220/3/60 230/1/60	208-220/3/60 230/1/60†
Refrigerant	R-22	R-22	R-22	R-22	R-22
Refrigerant Control	Capillary Tube	Capillary Tube	Capillary Tube	Capillary Tube	Capillary Tube
Dimensions (H/W/D)	22/32/44	25/32/44	25¼ /32/44	33/55/44	33/55/44
Net Weight, Lbs.	280	305	345	615	645

Accessory Air Distributors & Electric Heaters Available.

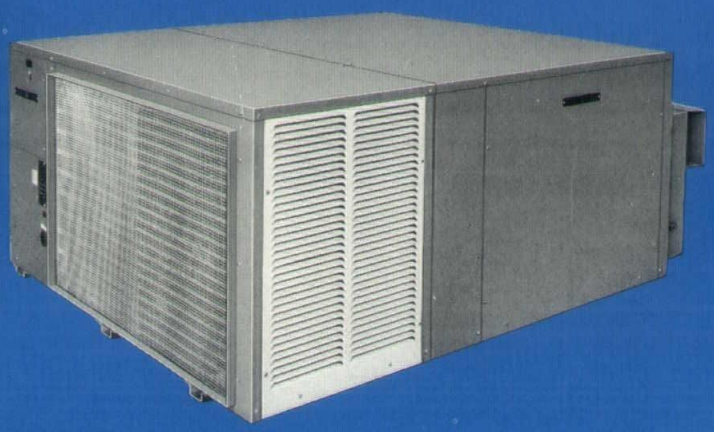
*Rated in accordance with ARI 210.
†Also available for 440/3/60.

SINGLE PACKAGE WEATHERTRON HEAT PUMPS

Ratings	WCO24A	WCO30A	WCO36A	WCO48B	WCO60B
Cooling Cap., Btuh*	22,000	29,000	35,000	47,000	59,000
Heating Cap., Btuh*	23,000	30,000	37,000	50,000	62,000
Air Flow, CFM (Indoor)	825 @ .34″ H_2O	1085 @ .42″ H_2O	1310 @ .26″ H_2O	1800 @ .38″ H_2O	2250 @ .35″ H_2O
Volts/Phase/ Cycles	230/1/60	230/1/60	230/1/60 208-220/3/60	230/1/60 208-220/3/60	230/1/60 208-220/3/60†
Refrigerant	R-22	R-22	R-22	R-22	R-22
Refrigerant Control	Capillary/ Modulator	Capillary/ Modulator	Capillary/ Modulator	Capillary/ Modulator	Capillary/ Modulator
Dimensions (H/W/D)	22/32/44	25/32/44	25/32/44	33/55/44	33/55/44
Weight, Net Lbs.	310	350	365	630	700

Accessory Air Distributor & Electric Heaters Available.

*Rated in accordance with ARI 240.
†Also available for 440/3/60.



CO2408

TD012, TD018, TD024

For commercial and industrial applications, General Electric offers economical gas/electric units with capacities up to 20 tons. May be used in multiples where greater heating and cooling requirements exist, with the added benefit of zonal temperature control.

Combination Gas-Electric Units—General Electric offers a complete line of combination gas/electric year 'round comfort systems for homes and commercial applications. Combines in one cabinet gas furnace economy and electric air conditioning comfort and convenience. A.G.A. approved for outdoor installation on roof-top or at ground level.

Water Cooled Systems—Horizontal air delivery allows mounting at ceiling level in closet—takes up no valuable floor space.

Provide economical integration with existing steam or hot water heating systems, or may be installed in new buildings using hydronic heat.

Ratings	TD012	TD018	TD024
Cooling Capacity BTUH (1) (2)	12,000	18,000	24,000
Indoor Airflow (CFM)	450 @ .20″	640 @ .20″	850 @ .20″
Volts/Phase/ Cycles	208-230/1/60	208-230/1/60	208-230/1/60
Refrigerant	R-22	R-22	R-22
Refrigerant Control	Capillary Tube	Capillary Tube	Capillary Tube
Dimensions (Ins.) H/W/D	21/20/38	21/20/38	21/20/38
Net Weight, Lbs.	135	150	160

(1) Rated in accordance with ARI 210. (2) TD Models available with or without Built-in Electric Heaters, which are rated at 4.8/9.6 or 4.8/7.2 KW, 240 Volts.

COMBINATION GAS/ELECTRIC HEATING/COOLING UNITS

Model	Htg. Capacity (Input—BTUH)	Cooling Capacity (BTUH*)	Airflow CFM	Indoor Blower H.P.	Power Supply	Refrigerant	Dims. (H/W/D)	Net Wt. Lbs.
CO2408A	80,000	23,000	850	⅓	230/1/60	R-22	25 x 45 x 60 ¾	545
CO3008A	80,000	29,000	1,000	⅓	230/1/60	R-22	25 x 45 x 60 ¾	575
CO3610A	100,000	35,000	1,300	⅓ PSC	230/1/60 208-240/3/60	R-22	25 x 45 x 60 ¾	600
CO4212A	120,000	40,000	1,400	½†	230/1/60 208-240/3/60	R-22	25 x 45 x 74 ¾	675
CO4814A	140,000	48,000	1,600	½†	230/1/60 108-240/3/60	R-22	25 x 45 x 74 ¾	700
CO6014A	140,000	59,000	2,000	¾†	230/1/60 208-240/3/60	R-22	25 x 45 x 80 ¾	725
CO9020 CO9030	200,000 300,000	95,000	3,000	1½	208/3/60 240/3/60 440/3/60	R-22	56 x 48 x 136	1590
CO12020 CO12030	200,000 300,000	118,000	4,000	2	208/3/60 240/3/60 440/3/60	R-22	56 x 48 x 136	1670
CO18030	300,000	178,000	6,000	3	208/3/60 240/3/60 440/3/60	R-22	56 x 82 x 152	2775
CO24040	400,000	236,000	8,000	5	208/3/60 240/3/60 440/3/60	R-22	56 x 82 x 152	3000

*Rated in accordance with ARI 210-61. †Belt-Drive Variable Speed.

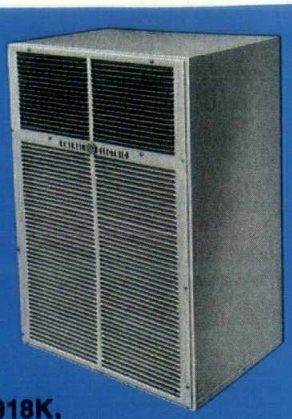
Outdoor Sections Split Systems

Central Air Conditioners for quality comfort control.

CONDENSING UNITS FOR CENTRAL AIR CONDITIONERS

TA180C, TA240C

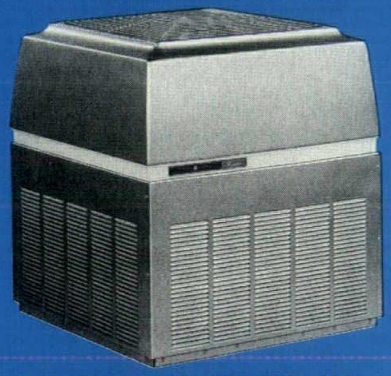
TA918H, TA924H, TA930H, TA936H, TA942H



TA918K, TA924K

TA048L, TA060L, TA072L

TA090C, TA120C



TA930N, TA948N, TA960N

Headed by the new Dual Air-Flow Executive condensing units that automatically balance operation to requirements, General Electric offers a split system combination to suit most any residential or commercial need. The new Executive is really a new concept in comfort. For example, on a moderate day or night it operates at low air-flow for economical, quiet cooling. Then, on a scorching day, it automatically shifts into high air-flow operation to keep the indoor comfort at desired level.

With capacities ranging from 1½ to 20 tons, and a full range of air handlers, a General Electric split system can easily be tailored to space restrictions as well as cooling requirements.

QUIK-ATTACH COUPLING SYSTEM ON MANY MODELS, combines the flexibility of the split system with the factory-sealed advantages of single-package units. Condensing section can be installed outside at any convenient location. Cooling coil is connected to condensing unit by means of factory charged tubing, available in lengths of 15, 25, 32 or 40 feet. The advantage of this system is that all components—condensing unit, cooling coil and tubing—are factory-sealed with adequate refrigerant charge. The QUIK-ATTACH couplings preserve this factory seal when connections are made and often result in a faster refrigerant hook-up.

Model	TA918H‡ w/XA018 I.D. Coil	TA918K‡ w/XA018A I.D. Coil	TA924K‡ w/XA022A I.D. Coil	TA924H‡ w/XA022A I.D. Coil	XA031‡ w/XA030 I.D. Coil	TA936N w/XA948 I.D. Coil	TA936H‡ w/XA034 I.D. Coil	TA942H‡ w/XA042 I.D. Coil	TA948N w/XA94A I.D. Coil	TA048L# w/XA048D I.D. Coil	TA960N w/XA960A I.D. Coil	TA072L# w/XA072 I.D. Coil	TA090C# w/WE096 Air Handler	TA120C# w/WE120 Air Handler	TA180C# w/WE192 Air Handler	TA240C# w/WE240 Air Handler
Cooling Capacity Btuh†	18,000	18,000	21,000	24,000	30,000	34,000	36,000	41,000	48,000	48,000	64,000	72,000	93,000	120,000	186,000	240,000
Airflow cfm	675*	675*	885*	900*	1160*	1275	1350*	1575*	1800	1800*	2400	2700*	3375	4000	6700	9000
Volts Phase Cycle	230/1/60	230/1/60	230/1/60	230/1/60	230/1/60	230/1/60	230/1/60	208-230/ 3/60 230/1/60	230/1/60	208-230/ 3/60 230/1/60	230/1/60	208-230/ 3/60 460/3/60	208-230/ 3/60 460/3/60	208-230/ 3/60 460/3/60	208-230/ 3/60 460/3/60	208-230/ 3/60 460/3/60
Refrigerant	R-22	R-22	R-22	R-22	R-22	R-22	R-22	R-22	R-22	R-22	R-22	R-22	R-22	R-22	R-22	R-22
Refrigerant Control	Capillary Tube	Capillary Tube	Capillary Tube	Capillary Tube	Capillary Tube	Expansion Valve	Capillary Tube	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve
Dimensions (Ins.) (H/W/D)	25x23x23	35x24x18	35x24x18	25x23x23	34x23x23	38x31x31	35x23x23	35x23x23	38x31x31	38x31x31	42x31x31	43x31x31	41x33x77	41x33x77	45x77x77	45x77x77
Net Wt./Lbs.	185	153	175	185	220	310	220	310	332	332	390	389	600	670	1200	1335

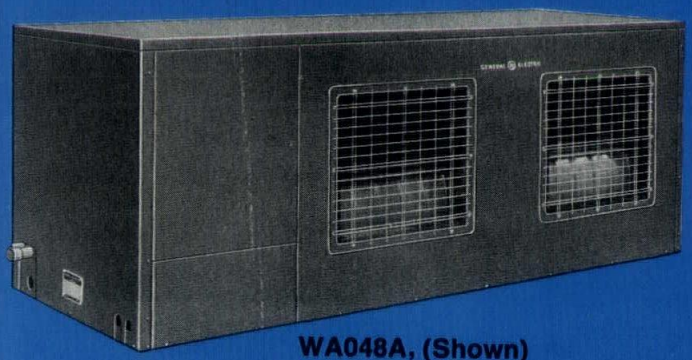
†Rated in accordance with ARI 210. *Airflow supplied by furnace. ‡Quik-Attach System. #Brazed System.

Outdoor Sections-Split Weathertron® Systems

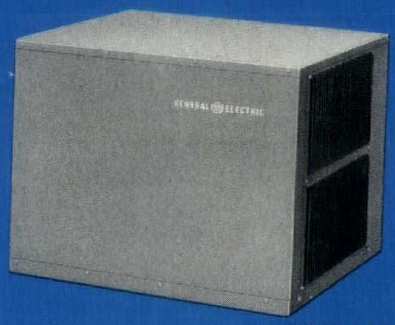
Outdoor Weathertron® Heat Pump units for use with air handlers.

WA918H, WA924H

WA192B
WA240B



WA048A, (Shown)
WA060A



WA030A, WA036A

The General Electric Weathertron® is a complete all-weather heat pump that provides year 'round comfort and convenience for homes, commercial and industrial buildings. Just a flick of the switch changes a Weathertron from cooling to heating, instant response to comfort requirements. Listed by Underwriters' Laboratories.

Using electricity as its sole source of energy, the Weathertron offers great design flexibility since no costly chimney, flues, or gas piping are required.

Automatic electric living is solid comfort with a Weathertron.

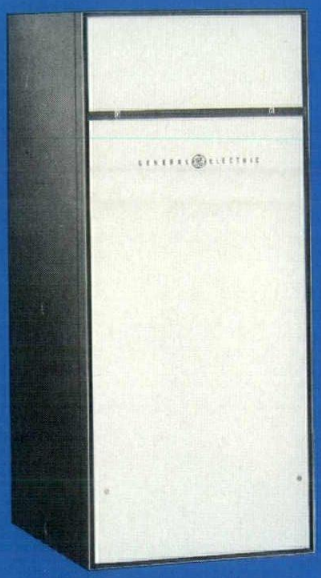
All Weathertron Heat Pumps have the famous GE Climatuf compressor designed for the rigorous demands of heat pump operation, not just an ordinary cooling compressor. Every compressor has leakproof metal-glass leads; quick acting thermal over-loads to protect compressor motor; internal spring mounts for vibration and noise isolation; long life bearings.

Ratings	WA918H w/WE918	WA924H w/WE924	WA030A w/WE030[3]	WA036A w/WE036[3]	WA048A w/WE048	WA060A w/WE060	WA096B w/WE096	WA120B w/WE120	WA192B w/WE192	WA240B w/WE240
Cooling Cap., Btuh[1]	17,000	22,000	28,000	34,000	45,000	55,000	93,000	112,000	182,000	220,000
Heating Cap., Btuh[1]	18,000	21,000	29,000	36,000	45,000	59,000	98,000	120,000	192,000	236,000
Air Flow, CFM (indoor[2])	635 @ .10	790 @ .18	1125 @ .20" H_2O	1350 @ .20" H_2O	1800 @ .20" H_2O	2250 @ .20" H_2O	3500 @ .25" H_2O	4000 @ .30" H_2O	7200 @ .50	9000 @ .50
Volts/Phase/ Cycles Outdoor Section	230/1/60	230/1/60	230/1/60	230/1/60 208-220/ 3/60	230/1/60 208-220/ 3/60	230/1/60 208-220/ 3/60†	208-220/ 3/60 440/3/60	208-220/ 3/60 440/3/60	208-230/ 3/60 460/3/60	208-230/ 3/60 460/3/60
Refrigerant	R-22	R-22	R-22	R-22	R-22	R-22	R-22	R-22	R-22	R-22
Refrigerant Control	Capillary	Capillary	Capillary/ Modulator	Capillary/ Modulator	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Valve	Expansion Vavle
Dim. Height	30"	30"	25"	25"	28"	28"	51"	51"	53"	53"
Dim. Width	23"	23"	27"	33"	70"	70"	70"	70"	78"	78"
Dim. Depth	23"	23"	28"	28"	28"	28"	28"	28"	70"	70"
Weight, Net Lbs. Outdoor Section	194	198	250	255	440	450	725	800	1490	1660

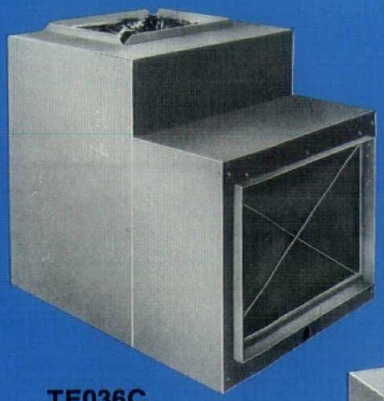
[1]Rated in accordance with ARI-240.
[2]Available for upflow or horizontal delivery.
[3]Also convertible to down flow delivery.
†Also available for 440/3/60.

Indoor Sections/Split Systems

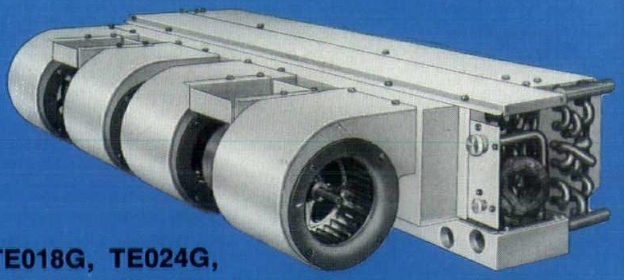
Air Handlers For Weathertron® Heat Pumps and Central Air Conditioners Efficiently Move Large Volumes of Conditioned Air



TE036B, WE030B, WE036B

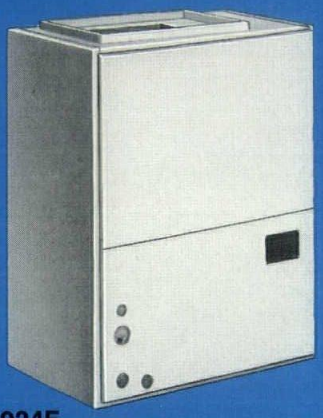


TE036C, WE030C, WE036C



TE018G, TE024G, TE030G, TE036G (shown)

WE918D, WE924D

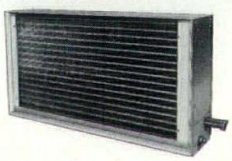


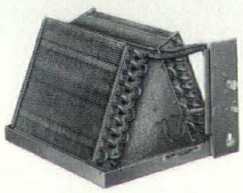
WE918F, WE924F

TE018E, TE024E (shown), TE030E, TE036E

General Electric air handlers have high performance characteristics on both heating and cooling. Models available for either horizontal, upflow or downflow delivery. For in-space applications, a handsomely styled air diffuser with directional louvers is available for horizontal models. Cabinets of all models have full foil-backed insulation. Horizontal models have a reinforced top panel, with a template included to facilitate suspension of the unit.

Cooling Coils



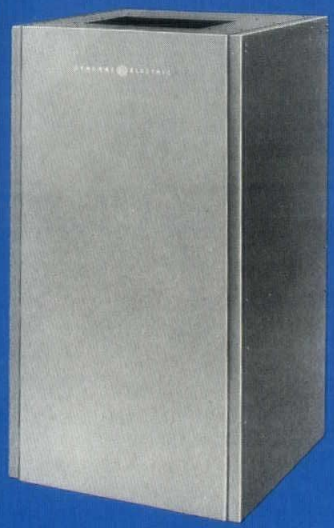


GE made coils available in both flat and "A" configuration to couple with virtually any forced warm air furnace.

Indoor Section	CONFIGU-RATION	INDOOR SECTION DIMENSIONS			FOR COOLING BTUH CAPACITY	FOR HEAT PUMPS BTUH CAPACITY	
		(H)	(W)	(D)		(Clg.)	(Htg.)
TE018E*	H	10″	34″	19″	17,000		
TE018G**	H	10″	34″	25″	16,000		
WE918D*	H	14″	26″	24″	17,000	17,000	18,000
WE918F*	V	30″	24″	14″	17,000	17,000	18,000
TE024E*	H	10″	44″	19″	23,000		
TE024G**	H	10″	44″	25″	22,000		
WE924D*	H	14″	26″	24″	22,000	22,000	21,000
WE924F*	V	30″	24″	14″	22,000	22,000	21,000
TE030E*	H	10″	44″	19″	29,000		
TE030G**	H	10″	44″	25″	28,000		
WE030B	V	55″	23″	26″	30,000	28,000	29,000
WE030C	H	21″	26″	40″	30,000	28,000	29,000
TE036E*	H	10″	52″	19″	35,000		
TE036G**	H	10″	52″	25″	34,000		
WE036B	V	55″	23″	26″	36,000	34,000	36,000
WE036C	H	21″	26″	40″	36,000	34,000	36,000
TE036B	V	55″	23″	26″	36,000		
TE036C	H	21″	26″	40″	36,000		

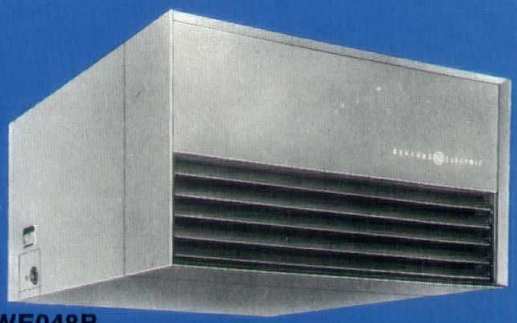
H —Horizontal Air Handler
V —Vertical Air Handler

*Electric Heat is Optional
**Hot Water Coil is Included



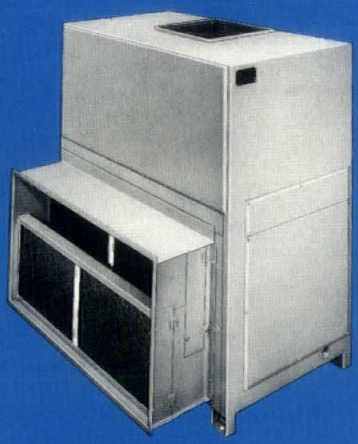
WE048A, WE060A

TE192B, TE240B

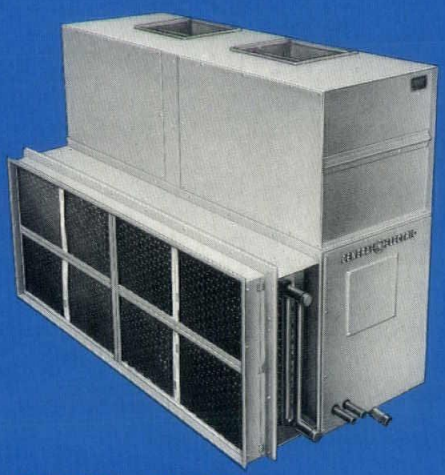


WE048B,
WE060B, TE072B, WE096A, WE120A

WE192C, WE240C



WE096B, WE120B



WE192D, WE240D

TE192A, TE240A

Indoor Section	INDOOR SECTION DIMENSIONS			FOR COOLING		FOR HEAT PUMPS		
				CAPACITY BTUH	OUTDOOR SECTION	CAPACITY BTUH		OUTDOOR SECTION
	(H)	(W)	(D)			Cooling	Heating	
WE048A[V]	55″	29″	29″	48,000	TA048L	45,000	45,000	WA048A
WE048B[H]	24″	42″	35″	48,000	TA048L	45,000	45,000	WA048A
WE060A[V]	55″	29″	29″	60,000	TA060L	55,000	59,000	WA060A
WE060B[H]	24″	42″	35″	60,000	TA060L	55,000	59,000	WA060A
TE072B[H]	24″	42″	35″	72,000	TA072L	—	—	—
WE096A[H]	26″	58″	42″	96,000	TA090C	93,000	98,000	WA096B
WE096B[V]	59″	57″	31″	96,000	TA090C	93,000	98,000	WA096B
WE120A[H]	26″	58″	42″	120,000	TA120C	112,000	120,000	WA120B
WE120B[V]	59″	57″	38″	120,000	TA120C	112,000	120,000	WA120B
TE192A[H]	37″	87″	70″*	192,000	TA180C	—	—	—
TE192B[V]	85″	87″	34″*	192,000	TA180C	—	—	—
TE240A[H]	40″	96″	75″*	240,000	TA240C	—	—	—
TE240B[V]	93″	96″	37″*	240,000	TA240C	—	—	—
WE192C[H]	37″	84″	56″	192,000	TA180C	182,000	192,000	WA192B
WE192D[V]	65″	84″	32″	192,000	TA180C	182,000	192,000	WA192B
WE240C[H]	37″	84″	62″	240,000	TA240C	220,000	236,000	WA240B
WE240D[V]	65″	84″	39″	240,000	TA240C	220,000	236,000	WA240B

*Plus filter section
[H]—Horizontal Air Handler
[V]—Vertical Air Handler

Forced Warm Air Furnaces

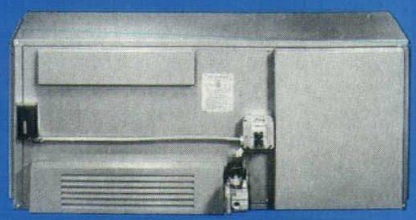
Gas Furnaces for Natural Gas, LP or Mixed Gases, Oil Furnaces, Electric Furnaces.

LU100K, LU130K, LU165K

LU080D, LU105D, LU120D, LU130D, LU150D, LU180D

LU060A, LU180A, LU100A, LU105A, LU120A

LD060A, LD080A LD105A, LD120A LD150A



LH080E, LH100E, LH120E, LH140E

EXECUTIVE—General Electric offers the Executive Furnace for those who want the very finest. Integrated design and dependability, plus the long life of the heavy duty cast iron heat exchanger, assures long-term economy and provides warm, filtered and circulated air. Handsome, attractive finish. Requires minimum floor space. Factory wired and assembled. Features modulated flame control. Offers three automatic flame heights and three automatic airflows for the ultimate in regulated temperature control. "Pinpoint" cast iron heat transfer sections for quick comfort. Extra large capacity blower. Adjustable fan speed. Semi-permanent-type cleanable filters reduce dirt, pollen.

AMBASSADOR — For economy and performance General Electric presents a broad range of steel heat exchanger gas furnaces to meet the popular demand. A.G.A. certified, they provide customer assurance of both safety and efficiency. Available in two series . . . the standard series manufactured primarily for the heating-only market; the high air flow series specifically "designed with cooling in mind."

Features rugged-steel heat exchanger —heavy gauge, heats quickly. Combination main gas control and pressure regulator maintains constant pressure for efficient combustion. Durable cast iron burners—insure instant ignition. Quiet, high-capacity blower and motor—cushioned-quiet operation.

COMPACT CLASSIC—Space saving that will be appreciated by every builder and home owner is just one of the benefits offered by GE's "Compact Classic" upflow and downflow furnaces. All models are A.G.A. certified for zero clearance at both sides and rear with class B-1 vents. Only minimum closet space is necessary for the clean classic lines which are functionally free of ornamentation.

Features "Thermal-Trap" heat exchanger, heats rapidly. Quieter operation is accomplished by quick-lighting cross-over slots which give smooth ignition. Dependable Safety Pilot guards against danger of flame failure.

HORIZONTAL FURNACES — Versatility-plus is built into all General Electric Horizontal Gas Furnaces. They are easily applied in attic, basement or crawl space installations. All models are A.G.A. certified for static pressures up to 0.50" H_2O for operation under air conditioning static pressures. Sturdy steel framework jacket protects and encloses major components. Tamperproof! Handsome, rugged finish. Requires no floor space. Knockouts in jacket panels and clearance holes in frames for easy suspension installations.

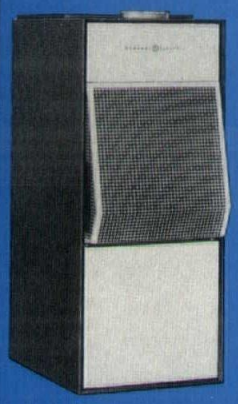
	LH080E	LH100E	LH120E	LH140E
AGA input, BTUH	80,000	100,000	120,000	140,000
Flue Size	5	5	5	6
Drive/Speeds Motor HP (115/1/60)	Belt 1/3	Direct-3 1/3	Belt 3/4	Belt 3/4
Filter Size*	1—16x-20x1	1—20x-20x1	2—15x-20x1	2—16x-20x1
Airflow Hi Speed @ .5" ESP	1200	1500	2000	2200
Net Weight	192	211	238	270

*Filter Rack supplied, but without filters.

	UPFLOW														DOWNFLOW				
	COMPACT CLASSIC					AMBASSADOR						EXECUTIVE			COMPACT CLASSIC				
	LU060A	LU080A	LU100A	LU105A	LU120A	LU080D	LU105D	LU120D	LU130D	LU150D	LU180D	LU100K	LU130K	LU165K	LD060A	LD080A	LD105A	LD120A	LD150A
AGA Input Btuh	60,000	80,000	100,000	105,000	120,000	80,000	105,000	120,000	150,000	150,000	180,000	100,000	130,000	165,000	60,000	80,000	105,000	120,000	150,000
Max. Cfm. @ .20" Std. Airflow	625	710	—	975	975	655	890	1110	—	1320	2220	—	—	—	—	—	—	—	—
Max. Cfm @ .50" H_2O High Airflow	770	1040	1600	1180*	1180*	1130*	1200*/ 1600**	1600*	1850	1850	2400*	1300	1600	1850	650	825	1000	1250	1400
Fan Motor H.P. Std. Airflow High Airflow	1/10 1/4	1/10 1/4	— 1/2	1/3 1/3	1/3 1/3	1/10 1/4	1/3 1/3	1/3 1/2	— 1/2	1/4 1/2	3/4 1 1/4	— 1/3	— 1/2	— 1/2	— 1/3	— 1/3	— 1/4	— 1/4	— 1/2
Dimensions Height Width Depth	48 1/2 15 26 1/4	48 1/2 15 26 1/4	48 1/2 18 1/2 26 1/4	48 1/2 18 1/2 26 1/4	48 1/2 18 1/2 26 1/4	55 15 28	55 18 1/2 28	55 18 1/2 28	55 25 1/2 28	55 25 1/2 28	55 25 1/2 28	55 18 1/2 28	55 25 1/2 28	55 1/2 29 28	50 1/2 15 26 1/4	50 1/2 18 1/2 26 1/4	50 1/2 22 26 1/4	50 1/2 22 26 1/4	50 1/2 25 1/2 26 1/4
Net Weight Standard	130	150	—	175	180	185	225	235	—	255	310	310	400	490	140	160	175	175	190
Net Weight High Airflow	135	155	170	180	185	185	230	240	255	260	320	310	400	490	145	165	180	180	195

*High Airflow Model **With 1/2 H.P. Motor

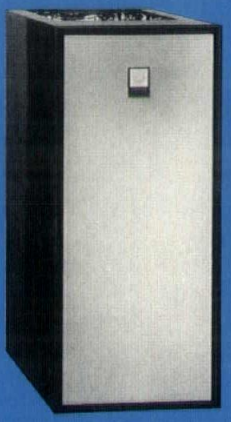
Wide Model Selection Tailors Capacity to Needs



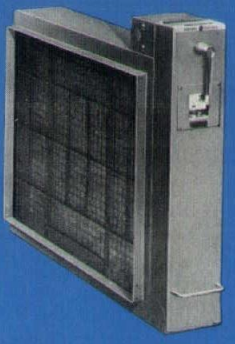
LTO84, LT112

LT140, LT168

LC084, LC112



LE034, LE051, LE068, LE085, LE120



EF012, EF020

HU500

OIL FURNACES—Here's the furnace with built-in, pay-for-itself features; economical to install, operate, and maintain. General Electric Oil Furnaces can be installed in basements, utility rooms, alcoves, or closets. Listed by Underwriters' Laboratories to conform with U.S. Department of Commerce CS195-60. Factory assembled and fire-tested. Available in upflow, downflow-horizontal, and lo-boy models.

ELECTRIC FURNACES—The comfort advantage of ducted warm air heat and the convenience of electricity are combined in the GE electric furnace. Requiring no costly gas lines or expensive chimney, the electric furnace offers great design freedom, since only a single energy source is needed...electricity. Its compact styling permits installation even where space is a premium such as in a mobile home. For year 'round air conditioning, cooling coils can be added at time of installation or later.

ELECTROSTATIC AIR CLEANERS—Two General Electric Electrostatic Air Cleaner models are available to couple with air conditioners and heat pumps up to 72,000 BTU/hr. capacity and forced warm air furnaces to 180,000 BTU/hr. capacity. Operate on regular 115 volt household current.

Efficiency rating: Model EF012, 97 percent filtration at 800 C.F.M. to 70 percent filtration at 1600 C.F.M.; Model EF020, 95 percent filtration at 1600 C.F.M. to 70 percent filtration at 2400 C.F.M.

Model	CFM	Dim. (Ins.) H/W/D	Electrical Requirements
EF012	600-1600	26¼ x 5¼ x 29¼	115/1/60
EF020	1600-2400	39¾ x 5¼ x 29¼	115/1/60

POWER HUMIDIFIER—General Electric's new positive action Humidifier automatically provides the right amount of moisture during the dry winter months. Eliminates the parched, bone dry, uncomfortable atmosphere of the heating season. And, by maintaining the moisture level, it also protects valuable furnishings from damage and the structure itself from drying and shrinking. Install on furnace plenum or under horizontal ducts. Model HU 500 will add up to 16 gallons of water every 24 hours. Operates on 115 volts. Measures approx. 12"W X 12"H X 11"D.

OIL FIRED FURNACES

Model	Upflow LT084	Upflow LT112	Lo-Boy LT140	Lo-Boy LT168	Downflow Convertible LC084	Horizontal LC112
Output at Bonnet Btuh	84,000	112,000	140,000	168,000	84,000	112,000
Oil Rate Gal./Hr.	¾	1	1¼	1½	¾	1
Airflow at 0.2" H_2O Standard	990	1,270	1,420*	1,700*	1,010	1,250
Airflow at 0.5" H_2O High Airflow	1,210	1,610	1,420*	1,700*	1,140	1,540
Fan Motor hp Standard High Airflow	⅓ ⅓	½ ½	⅓ —	½ —	⅓ ⅓	½ ½
Height	55"	55"	55"	55"	55"	55"
Width	22"	25½"	51"	51"	22"	25½"
Depth	28"	28"	28"	28"	28"	28"

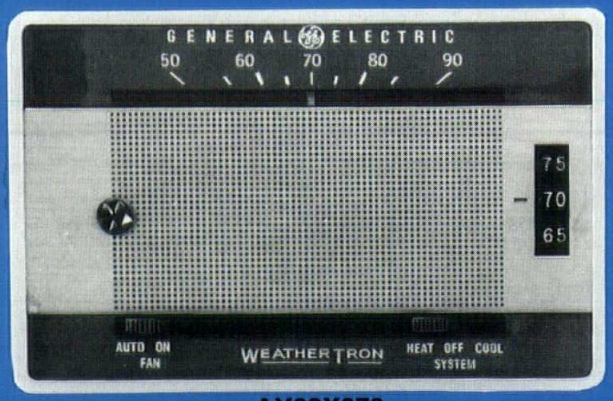
*@ .45" H_2O

ELECTRIC FURNACES

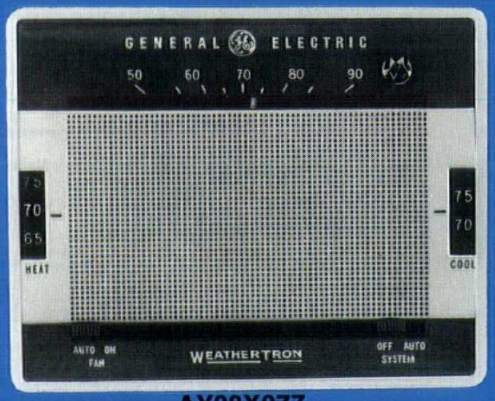
Model	LE034	LE051	LE068	LE085	LE102
Rated Input KW	10	15	20	25	30
Rated Output Btuh	34,000	51,000	68,000	85,000	102,000
Airflow CFM @ 0.50/H_2O	800	1,200	1,600	2,250	2,250
Fan Motor	¼	⅓	½	¾	¾
Height	36"	36"	36"	36"	36"
Width	15"	15"	18½"	22"	22"
Depth	28"	28"	28"	28"	28"

All ratings based on 240 V. power supply

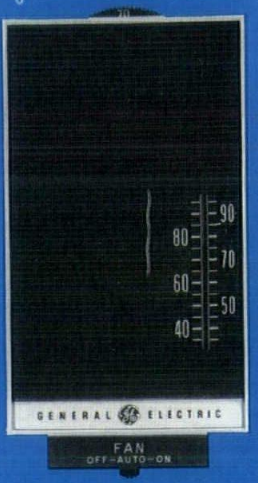
Heating-Cooling Thermostats



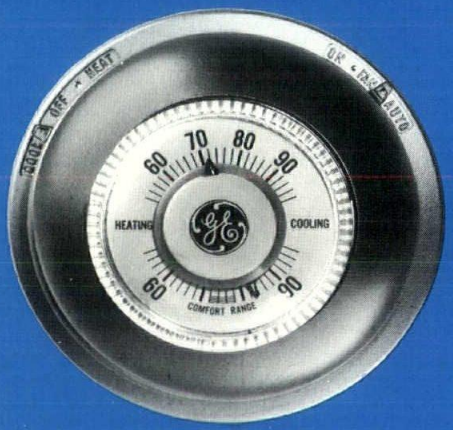
AY28X078
Weathertron Thermostat
Seasonal Selector



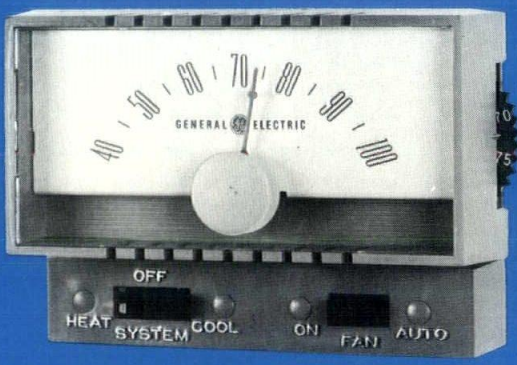
AY28X077
Weathertron Thermostat
Auto Switch over



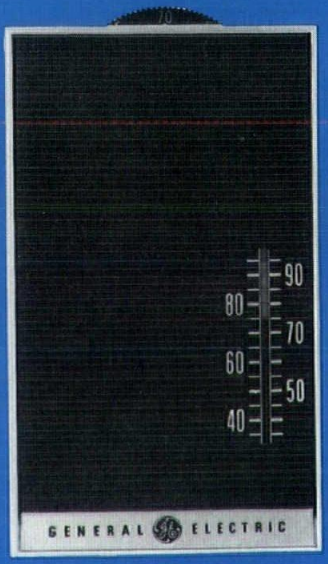
ACT11B1B1
Cooling Thermostat
W/ Fan Switch



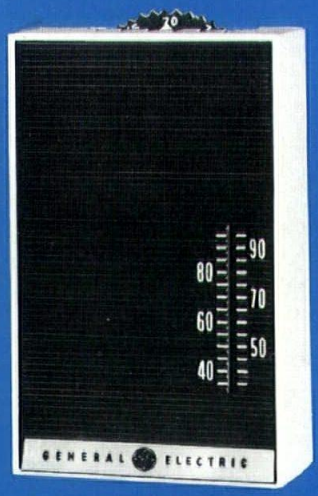
AY28X68
Heating/Cooling Thermostat
Round shown with AY28X080 Sub-base



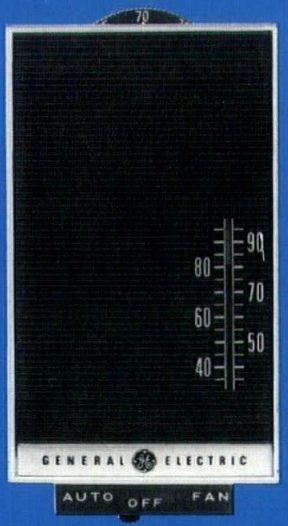
AAT31A1B4
Heating/Cooling Thermostat,
Horizontal



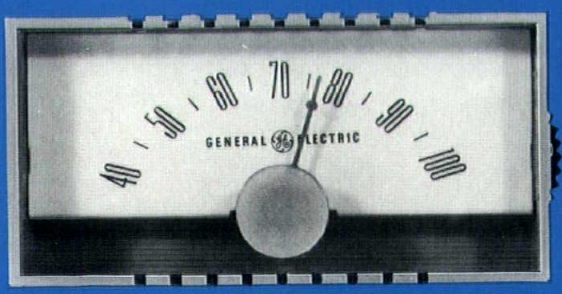
ACT10B1B1
Cooling Thermostat,
Vertical



AHT10B1A4
Heating Thermostat
Vertical W/O Fan Switch



AHT11B1A4
Heating Thermostat
W/ Fan Switch

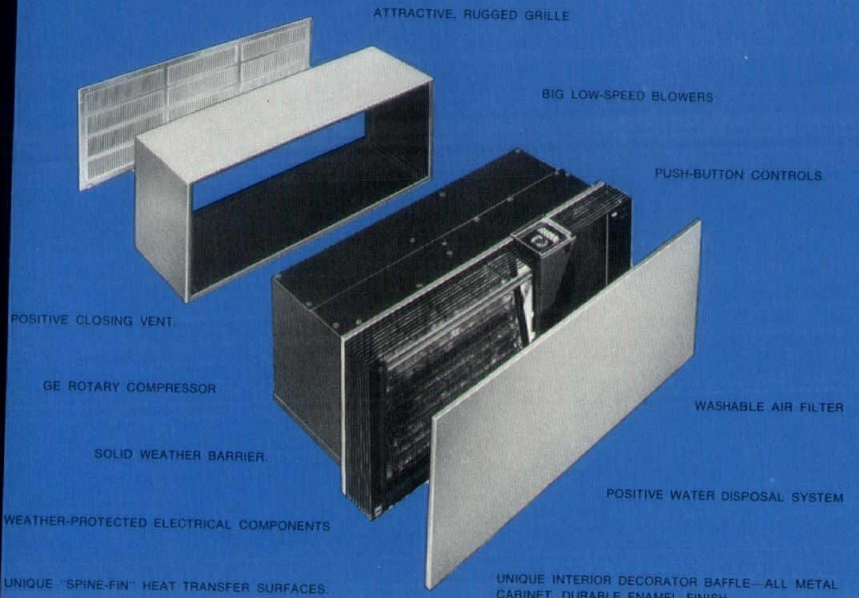


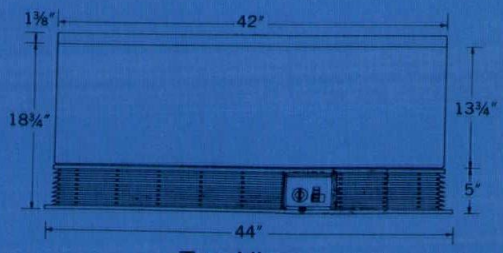
ACT20A1B1
Cooling Thermostat,
Horizontal Deluxe

Zoneline Air Conditioning and Heating

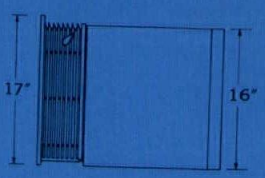
The ultimate in thru-the-wall zonal air conditioning.
For residential, commercial, and industrial application.

GENERAL ELECTRIC ZONELINE QUALITY FEATURES





Top View



Side View

A choice of four systems:

1. Cooling only
2. Cooling and Heating Electric Heat
3. Cooling and Heating Heat Pump
4. Cooling and Heating Hydronic

Baffle front can be decorated to suit the taste of the user. Air discharge is upward and adjustable, furniture placement is not a problem.

Advantages over most central plant systems:

1. Initial investment economy
2. Individual comfort control
3. Operating and maintenance economy
4. Ease of specification and application
5. Opportunity for individual metering.

Zoneline Adaptability—Versatility

Because of their ease of adaptation, many unique and highly effective applications can be made.

Also, outside thru-the-wall appearance can be specified in one of three ways:

1. with a decorative baffle mounting kit (the baffle can be designed to completely conceal the unit),
2. with an attractive architectural aluminum louver, or
3. with an economy stamped aluminum grille.

Special Applications

1. For air conditioning/heating two or more rooms, a single Zoneline may be ducted into the secondary area.
2. Where remote control is desired, an accessory low-voltage wall thermostat and sub-base may be used for temperature control.
3. Corrosion-Resistant Chassis—may be specified as a modification to extend chassis life in corrosive coastal atmospheres.
4. Hydronic models—Integral heating coil and controls to operate with steam or hot water hydronic heating.
5. Console models—with covered controls, special appearance front and load bearing sub-base.

RATINGS AND SPECIFICATIONS

Model Number†	COOLING				COOLING/ELECTRIC HEAT				HEAT PUMP	
	RB304D	RB404D	RB604D	RB704D	RB344D	RB444D & E***	RB644D & E***	RB744D & E***	RB584D	RB784D
Btu/Hr Capacity (Cooling)	6000	8000	12,000	15,000	6000	8000	12,000	15,000	9,500	14,000
Dehumidification (Pts/Hr)	1.5	2.0	4.0	5.0	1.5	2.0	4.0	5.0	3.0	5.0
Volts	230/208	230/208	230/208	230/208	230/208	230/208 & 265	230/208 & 265	230/208 & 265	230/208	230/208
Btu/Hr Capacity*—Heat Pump at 45°	—	—	—	—	—	—	—	—	10,000	15,000
Resistance Heater (KW)**	—	—	—	—	3.4/2.75	3.4/2.75 & 3.4	3.4/2.75 & 3.4	3.4/2.75 & 3.4	3.4/2.75	3.4/2.75

NOTE: 1. Specifications furnished on request for Zoneline with Hydronic Heat and 265 Volt Zonelines with Electric Heat. 2. Ratings and Specifications shown above also applicable on Console Models. 3. Zoneline models are available with special corrosion protection for coastal use. 4. Special Zoneline models are available for two room ducted applications. 5. Zoneline models adapted for remote control may be ordered. 6. Zoneline models with electric heat available with two fan motors for extra heating efficiency.

*Reverse Cycle Heating. When the outside temperature drops to a point where a freezing condition could occur on the outdoor coil the reverse cycle will shut off and electric resistance heaters in the unit will automatically turn on.

**Ratings shown are for standard resistance heaters. Other resistance heaters available on special order from 1.5 KW to 4.5 KW in increments of approx. 500 watts.

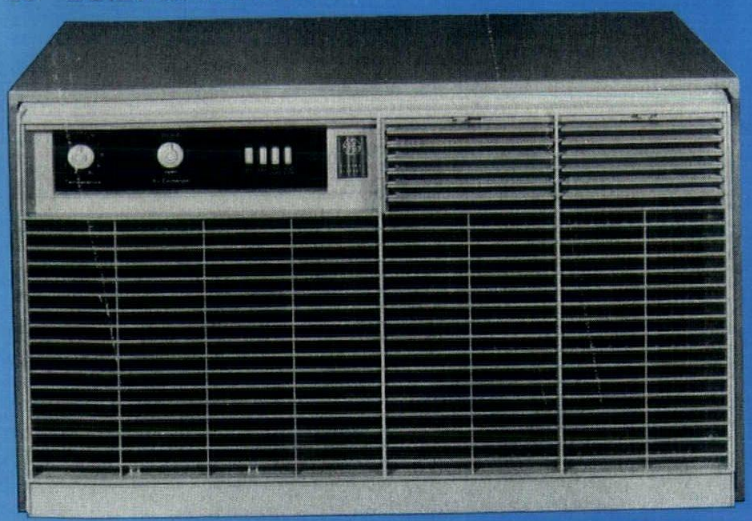
***"D" suffix indicates dual voltage—230/208 V.
"E" suffix indicates 265V model suitable for 277V supply.

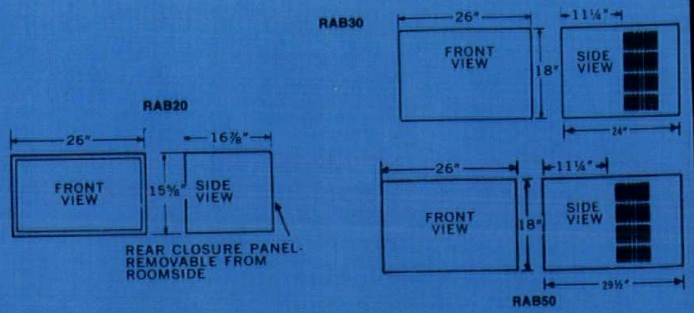
†Dual Voltage Components Switch behind baffle permits setting for 230 or 208 volt operation at time of installation.

Built-In Air Conditioning

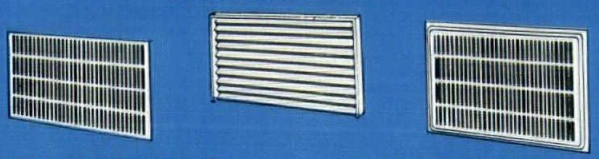
Cooling—Cooling with Electric Heat—Heat Pumps.
Offers low cost air conditioning for new or existing apartments, hotels, motels, or offices.

26" BUILT-IN FEATURES





OPTIONAL ARCHITECTURAL GRILLE RAG 11 FOR JC MODELS.



OPTIONAL STAMPED GRILLE RAG 10 FOR JC MODELS.

STANDARD GRILLE INCLUDED WITH CABINET OF DC AND FC MODELS

Advantages are:

Personal room control—Low initial investment—Operating economy—Long life—Ease of installation—Dependable performance.

JC-Series Built-In

Up to 11,000 BTU in a small cabinet with no side louvers makes this model series one of the most versatile air conditioners in the industry. Unusually quiet operation made possible with the use of a new sirocco type blower system and a rotary compressor that virtually eliminates vibration. One-piece molded gasket offers a positive air and water seal. New front grille with Selecta-thrust controls offer exceptional air direction flexibility. Can be flush mounted inside or outside.

FC & DC-Series, Built-Ins

High capacity models for large area or multi-room cooling such as apartments or large offices. New design allows "focusing" of four air directors for "Jet" cooling effect — provides greater air throw with a straighter flow. Features include thermostat—air exchanger—two fan speeds—fan only for air circulation—four air directors—rotary compressor—spine fin cooling coils. Can be flush mounted inside.

Here's the practical way to economically cool and heat any structure new or old. In new construction the case is installed as the wall is erected and the chassis later as occupancy occurs. No money is tied up in equipment until it will be used.

Offering complete individual control, the wide range of capacities includes a model appropriate for an efficiency apartment, up through one capable of handling a large office area.

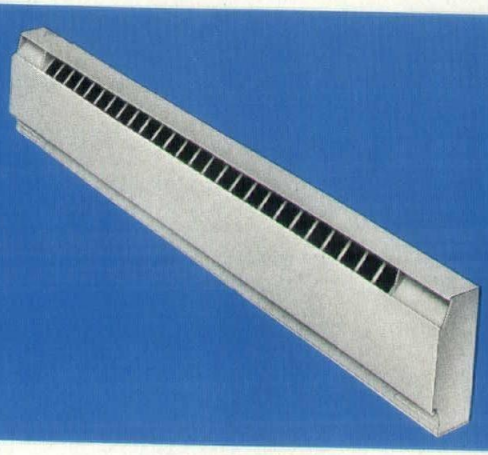
All built-ins offer air direction control, washable air filter, effective condensate disposall system, air exchanger, permanently lubricated fan motor, easy to use "up front" controls and slide out chassis for easy service. Special heat resistant interior grilles are furnished with heating models.

SPECIFICATIONS

26" Built-in Air Conditioners	COOLING						COOLING WITH ELECTRIC HEAT				HEAT PUMP	
Model No.**	AGJC306A	AGJC309A	AGJC309D	AGJC310D	AGJC311D	AGFC315D	AGJCE06D	AGJCE10D	AGFCE15D	AGDCE18D	AGJCER10D	AGFCER13D
Specifications Cooling Capacity (BTU/hr-AHAM)	6000	8500	8500	9500	11000	15000	6000	10,000/9800	14,500	18,000	9,500	13,000
Power Supply 60 cycle-Volts	115	115	230/208	230/208	230/208	230/208	230/208	230/208	230/208	230/208	230/208	230/208
Heating Capacity (BTU/hr) heat pump @ 45° F*	—	—	—	—	—	—	—	—	—	—	9500	13,000
Watts (KW) resistance heater	—	—	—	—	—	—	2.2/1.8	3.0/2.5	3.4/2.8	4.5/3.7	3.0/2.5	3.4/2.8
max. conn. load	—	—	—	—	—	—	2.5/1.9	3.3/2.7	3.7/3.0	4.8/4.0	3.3/2.7	3.7/3.0
General Specifications Cabinet model required	RAB 20	RAB 20	RAB 20	RAB 20	RAB 20	RAB 30	RAB 20	RAB 20	RAB 30	RAB 50	RAB 20	RAB 30
Rear grille required	RAG 10 or 11	RAG 10 or 11	RAG 10 or 11	RAG 10 or 11	RAG 10 or 11	With Cab.	RAG 10 or 11	RAG 10 or 11	With Cab.	With Cab.	RAG 10 or 11	With Cab.

*Reverse-cycle heating. When outside temperature drops to between 38° and 43° F, the mode of operation will automatically shift to electric heat.
**The suffix "A" indicates 115 Volt operation. "D" indicates dual voltage model satisfactory for either 230 or 208 volt supply.

Electric Comfort Heating Systems



BASEBOARD HEATING

A completely quiet, space saving heating system that's economical to install, efficient to operate.

Clean and healthful • Greater economy without heat loss • Installation flexibility with wide capacity range and various lengths • Easy to install and self contained • Junction box at both ends • Pre-punched mounting holes every inch • Foam mounting strip on back • Wide accessory selection • For new construction, add-on rooms, or extensive remodeling.

RADIANT HEATING CABLE

for plaster and laminated dry wall ceilings

Because there are no moving parts in the system, there is nothing to wear out—properly installed, the system will last the life of the home.

Automatic zone control with room thermostats • Completely noiseless • Easy to install • Factory engineered lengths to suit various room sizes • Maintains accurate, even temperature • Underwriters' Laboratory Listed • For new construction, add-on rooms, or extensive remodeling.

All Baseboard Equipment is 6 inches high . . . 2½ inches deep. Three inches of space is required on each wall for corner sections. All other accessory sections are 3 inches long. Center lines of all knockouts—back, bottom and ends—are 1½ inches from ends and/or 1 inch from back of equipment.

BASEBOARD HEATING

Model No.	Length (Ft.)	Wattage at Specified Voltage 208V	240V	277V
*BB3050C1	3		500	
BB3050C3	3	500		
BB3050C4	3			500
BB3075C1	3		750	
BB3075C3	3	750		
BB3075C4	3			750
BB4060C1M	4		600	750
BB4075C1M	4	600	750	1000
BB4100C1M	4	750	1000	
BB4100C3	4	1000		
BB5071C1M	5		710	900
BB5090C1M	5	710	900	1250
BB5125C1M	5	900	1250	
BB5125C3	5	1250		
BB6087C1M	6		870	1100
BB6110C1M	6	870	1100	1500
BB6150C1M	6	1100	1500	
BB6150C3	6	1500		
BB8120C1M	8		1200	1500
BB8150C1M	8	1200	1500	2000
BB8200C1M	8	1500	2000	
BB8200C3	8	2000		
BB9146C1M	10		1460	1850
BB9185C1M	10	1460	1850	2500
BB9250C1M	10	1850	2500	
BB9250C3	10	2500		

*Available in 120V (3050C2).

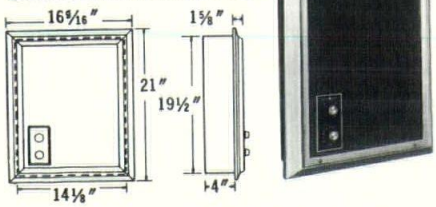
RADIANT HEATING CABLE

Model	Watts	BTU/HR	Volts	Amps	Approx. Length (Ft.)
HW1025C1	250	850	240	1.0	91
HW1040C1	400	1360	240	1.7	146
HW1060C1	600	2050	240	2.5	219
HW1080C1	800	2730	240	3.3	291
HW1100C1	1000	3410	240	4.2	364
HW1120C1	1200	4100	240	5.0	437
HW1140C1	1400	4780	240	5.8	510
HW1160C1	1600	5460	240	6.7	582
HW1180C1	1800	6140	240	7.5	655
HW1200C1	2000	6830	240	8.3	728
HW1225C1	2250	7680	240	9.4	819
HW1250C1	2500	8530	240	10.4	910
HW1275C1	2750	9390	240	11.5	1000
HW1300C1	3000	10240	240	12.5	1091
HW1330C1	3300	11260	240	13.8	1200
HW1360C1	3600	12290	240	15.0	1310
HW1400C1	4000	13650	240	16.7	1456
HW1440C1	4400	15020	240	18.3	1600
HW1480C1	4800	16380	240	20.0	1746
HW1035C3	350	1190	208	1.7	128
HW1052C3	525	1790	208	2.5	191
HW1070C3	700	2390	208	3.4	255
HW1087C3	875	2990	208	4.2	319
HW1105C3	1050	3580	208	5.0	382
HW1120C3	1200	4100	208	5.8	442
HW1140C3	1400	4780	208	6.7	510
HW1155C3	1550	5290	208	7.5	568
HW1175C3	1750	5970	208	8.4	637
HW1195C3	1950	6660	208	9.4	710
HW1215C3	2150	7330	208	10.4	788
HW1240C3	2400	8190	208	11.5	873
HW1260C3	2600	8870	208	12.5	946
HW1285C3	2850	9720	208	13.7	1040
HW1310C3	3100	10580	208	14.9	1135
HW1350C3	3500	11950	208	16.8	1273
HW1380C3	3800	12970	208	18.3	1387
HW1420C3	4200	14340	208	20.2	1528

Electric Comfort Heating Systems

WALL HEATERS

Custom Forced (Fan) Convection Wall Heaters



For complete or auxiliary room heating of recreation rooms, utility rooms, dens, kitchens, basements, nurseries and offices. Will not interfere with radio or TV reception.

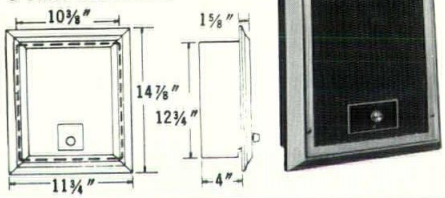
Catalog Number			BTU/hr.
WH3200A1A	240V	2000W	6,824
WH3300A1A	240V	3000W	10,230
WH3400A1A	240V	4000W	13,648

NOTE: Also available in 208 and 277 volts. Special models with hidden controls available in all sizes and voltages on special order.

Wall box HX 3010A to be ordered separately.
Surface Mounting ring HX 3020A (must also use box).

Compact Forced (Fan) Convection Wall Heaters

For Bathroom & other small rooms



Catalog Number			BTU/hr.
WH1066A2A	120V	660 WATTS	2,252
WH1075A3A	208V	750 WATTS	2,560
WH1075A1A	240V	750 WATTS	2,560
WH1150A2A	120V	1500 WATTS	5,120
WH1150A3A	208V	1500 WATTS	5,120
WH1150A1A	240V	1500 WATTS	5,120

Wall box HX 2010A to be ordered separately.
Surface mounting Ring HX 2020A (must also use box).

Compact Radiant Wall Heaters

Ideal for bathrooms, utility rooms, dressing rooms, or whenever space is at a premium

Catalog Number with Controls		
WH2060A2A	660 WATTS	120V
WH2075A1A	750 WATTS	240V
WH2100A2A	1000 WATTS	120V
WH2100A1A	1000 WATTS	240V

Wall box HX 2010A to be ordered separately.
Surface mounting Ring HX 2020A (must also use box).

CEILING HEATERS

Bathroom Ceiling Heater Light/Exhaust Fan

Provides immediate warmth. Reflector directs heat downward and exhaust fan rids bathroom of steamy vapor.

Cat. No.	Volts	Watts	BTU/hr.
CH2145B2	120	1450 heater 67 fan 120 lamp	4,950

Bathroom Ceiling Heater

Compact, radiant-type, 12½" diameter. Incorporates slow speed fan to move sufficient air to cool fixture.

Catalog Number	Watts	Volts	Outside Diameter	Height
GE7245-91	660	120	12½"	3⅛"

Infra-Red Ceiling Heater (Single)

Insert mounted, controlled by standard on/off wall switch. Size: 7" diameter, ½" projection. Color: Polished aluminum.*

Model	Volts	Watts	BTU/Hr.
CH3025A2	120	250	855

*Lamps not included.

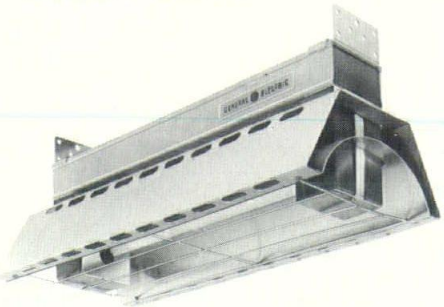
Infra-Red Ceiling Heater (Double)

Insert mounted, controlled by standard on/off wall switch. Prewired for one or two lamp operation. Exterior size: 8" x 16⅜", 2½" maximum projection. Color: Polished aluminum.*

Model	Volts	Watts	BTU/Hr.
CH3050A2	120	500	1705

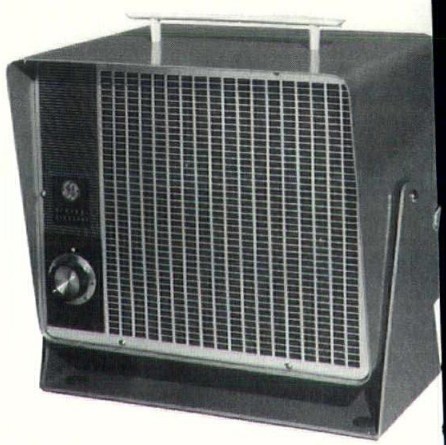
* Lamps not included

RADIANT QUARTZ HEATERS



Instant heating with many practical economical applications indoor or out. Infra-red energy instantly warms a person or object upon which it is directed regardless of temperature or severe conditions. A wide choice of mounting arrangements are possible.

Catalog No.	Lamp Type	Length	Watts	Volts	Weight Lbs.
GE7271-2	1-GE-T3 Lamp	16"	1000	240	9
GE7272-2	1-GE-T3 Lamp	22"	1600	240	9
GE7273-4	1-GE-T3 Lamp	44"	3000	480	15
GE7274-1	1-Quartz Tube	16"	500	120	8
GE7275-1	2-Quartz Tubes	16"	1000	120	8
GE7276-2	1-Quartz Tube	22"	800	240	9
GE7277-2	2-Quartz Tubes	22"	1600	240	10
GE7278-2	1-Quartz Tube	44"	2000	240	15
GE7279-2	2-Quartz Tubes	44"	4000	240	16



Forced Fan Convection Utility Heaters

For Residential and Commercial Use. Provides ample fan circulated warmth for supplemental or complete room heating. Ideal for basements, utility rooms, play rooms, vacation cottages, garages (insulated), workshops and offices.

Cat. No.	Volts AC	Watts	BTU/hr.
UH1300B1	240	3000	10,230
UH1480B1	240	4800	16,380

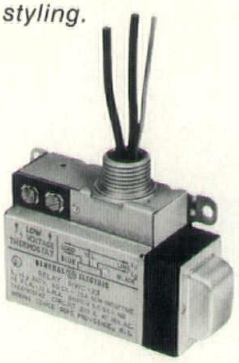
NOTE: Model UH1300B1 requires a 15 amp 240 volt grounding outlet. Model UH1480B1 requires a 30 amp. 240 volt grounding outlet.

Electric Comfort Heating Controls

Room thermostats and controls—for embedded radiant cable, baseboard and wall-heater-type electric heating systems. Room-by-room temperature control—flexibility—heating economy—maximum comfort—handsome styling.

LOW VOLTAGE THERMOSTATS

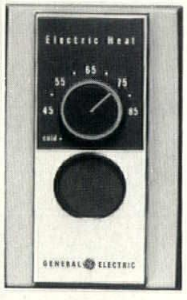
HWC-21



HWC-23
HWC-30
HWC-31

No.	Description	Electrical Rating
HWC 21	Sgl. Pole S. T., Heating only	30V (max) 2.0 amp (max) heat anticipation adj 0.2-0.8 amp.
HWC 23	L. V. Relay; Sgl. Pole normally opens contacts, with transformer	Primary: 240V, load: non-ind. 25A 6000W, Thermal Time Delay Relay
HWC 30	L. V. Relay; Sgl. Pole normally opens contacts, with transformer	Primary: 277V, load: non-ind. 25A 6000W, Thermal Time Delay Relay
HWC 31	L. V. Relay; Sgl. Pole normally opens contacts, with transformer	Primary: 208V, load: non-ind. 25A 6000W, Thermal Time Delay Relay

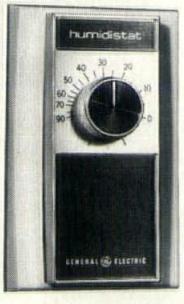
HYDRAULIC THERMOSTAT



Extreme sensitivity—selected comfort levels are maintained within close differentials. Wide range of settings—from a low of 45 degrees F to a maximum of 85 degrees.

No.	Description	Electrical Rating
*HT410	Single pole with "LOW" Shutdown position	22A (2500W) 120V A.C.
*HT411	Double pole with "OFF" position	22A (5000W) 240V A.C. 18A (5000W) 277V A.C.

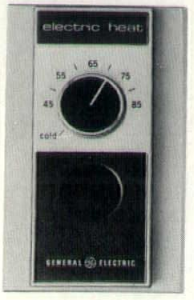
HUMIDISTAT



Humidity comfort level maintained by human hair element. Automatically controls exhaust fan to maintain low relative humidity during heating season. Extremely sensitive—has 0% to 90% relative humidity range. 4% differential.

No.	Description	Rating—AC only Volts	FLA	LRA
HC520	Single pole, double throw Snap acting contacts	120 208 240	5.8 3.3 2.9	34.8 19.8 17.4

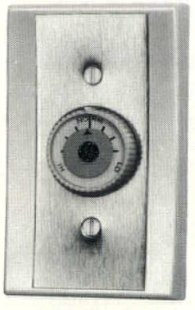
THERMO-MASTER THERMOSTAT WITH WATT-MATCHER



Extreme sensitivity—selected comfort levels are maintained within close differentials. Wide range of settings—from a low of 45 degrees F to a maximum of 85 degrees. Built-in dial stops—can be set to limit minimum and maximum levels or locked at one level. Featuring the General Electric Watt Matcher. Readily reachable, this control is easily set to match wattage of load.

Cat. No.	Description	Electrical Rating
*HT510	Single Pole with "LOW" Shutdown position	22A 120V A.C.
*HT511	Double pole with "OFF" position	22A 240V A.C.

BI-METAL THERMOSTATS



HWC-25 and HWC-26

*Recommended Application Limit—3500 Watts

This General Electric radiant-heat thermostat is designed to fit any standard 2" x 3" rectangular conduit, sheathed cable or armored cable box. Has back wiring feature. Dial can be set anywhere between 50° and 90°F by simply turning the knob so that the desired reading (LO, NORMAL, HIGH) falls under the arrow.

Cat. No.	Description	Electrical Rating
*HWC25	Single pole with "LOW" Shutdown position	22 amps (2500W) 120V 22 amps (5000W) 240V 22 amps (5000W) 277V
*HWC26	Double pole with "OFF" position	

THERMOSTAT AND SWITCH COMBINATION

Thermostat and switches on same double-gang outlet box. Hydraulic thermostat is combined with any one of several switch and outlet combinations.

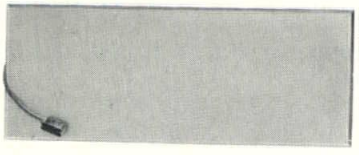
Cat. No.	Description	Electrical Rating
*HWC 17	Sgl. Pole Thermostat, comes with 1, 2 or 3 opening inserts no devices, "LOW" shut down position	22 amps 120 volts
*HWC 17AB	Same as HWC-17 except with Heat-Cool insert and plain insert only	22 amps 240 volts
*HWC 18	Same as HWC-17, but dbl. pole with "OFF" position.	18 amps 277 volts

Specifications and trim are subject to change without notice.

Electric Comfort Heating Systems (cont.)

RADIANT CEILING PANELS

For Hard to Heat Areas



Permits full use of floor space regardless of windows, electric outlets, plumbing or other obstructions.

Either flush or surface mounted, these (13/16") heating panels provide an abundance of heat to keep high-heat loss areas warm and usable even in coldest weather. Easy to install either in new construction or existing ceilings. No moving parts. No drafts. Completely silent. Can be painted as desired.

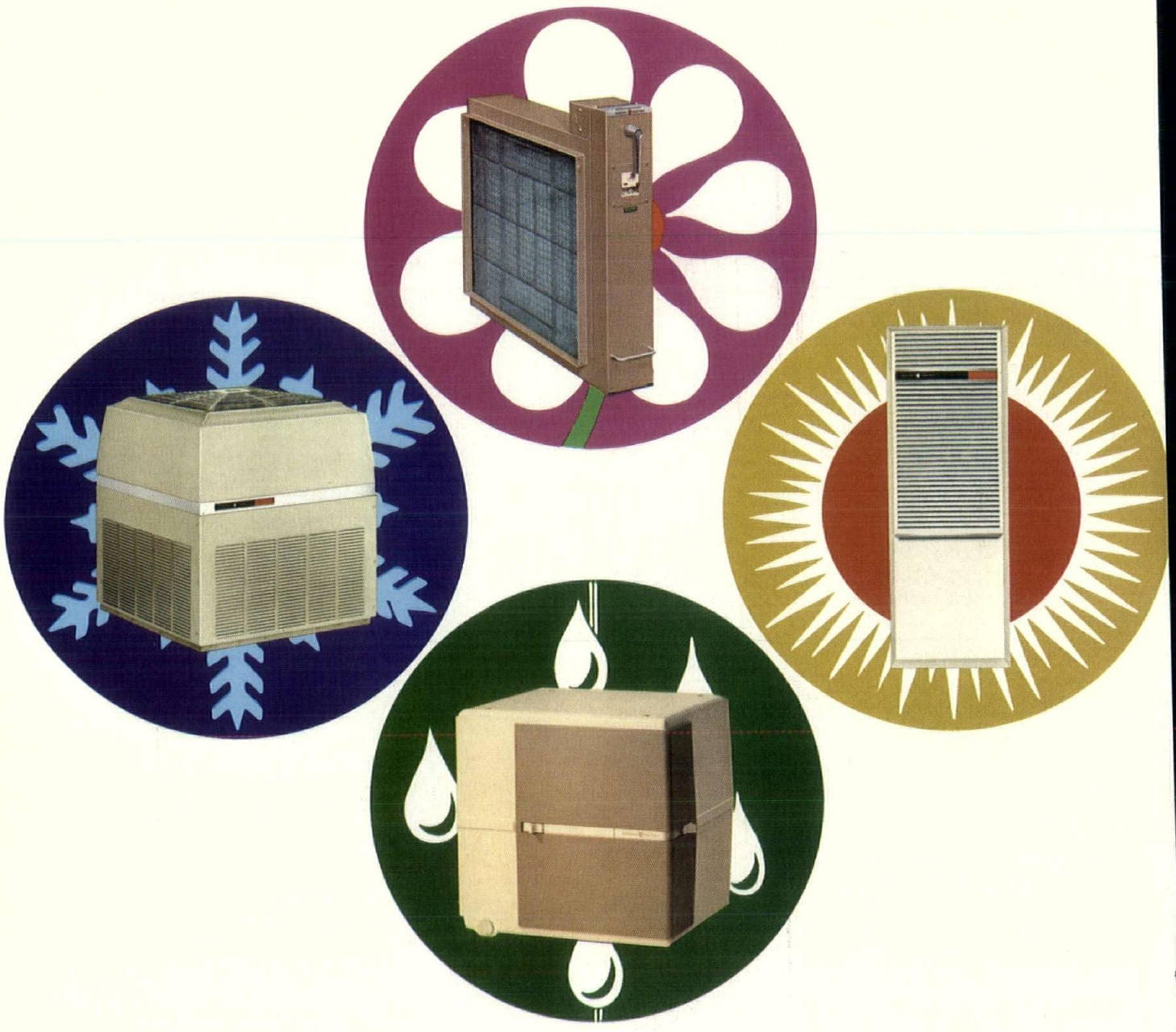
Controlled by individual GE thermostat. Maintains the exact temperature setting desired.

CAT. NO.	RATING	SIZE
CP5070 A1 CP5070 A3	700 W—240 V 700 W—208 V	2' x 5' x 13/16" 2' x 5' x 13/16"

"T" Bar mounted ceiling Panel (2' x 4')

The new 2' x 4' panel is ideal for commercial and industrial applications where dropped "T" Bar construction is used.

CAT. NO.	RATING	SIZE
CP4056 A1 CP4056 A3 CP4056 A4	560 W—240 V 560 W—208 V 560 W—277 V	23¾" x 47¾" x ¾" 23¾" x 47¾" x ¾" 23¾" x 47¾" x ¾"



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If comfort is a consideration, see your General Electric dealer or distributor for consultation and the world's finest equipment.

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+ PRODUCTION
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+ EMPLOYEE RELATIONS
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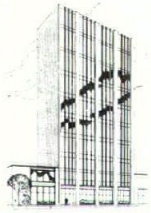
LESS SPOILAGE
LESS MAINTENANCE

Facts About Dual Duct High Velocity Air Distribution Systems

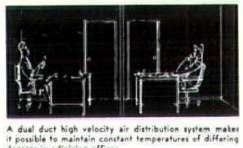
Air inside the modern commercial building needs to be thoroughly conditioned for the comfort, health, and efficiency of its occupants the year around. This requires an air distribution system that provides heating, cooling, the proper amount of humidity, cleaning, filtering, and freshening. Only a ducted air distribution system meets these requirements, and a **dual** duct high velocity air distribution system does it best.



Today's gleaming towers of steel and glass, and tomorrow's even more advanced structures, require the most modern concept in air distribution—dual duct high velocity systems.

Many Advantages

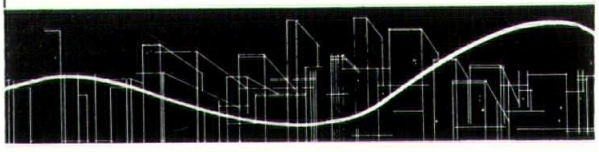
With a dual duct high velocity air distribution system there is no equipment in the working area to interfere with placement of furniture or interior decor. Ductwork is concealed above the hung ceiling and air is introduced into the room through a wide number of functional and aesthetically designed air diffusers or other air outlets. The constant supply of conditioned air can be adjusted quickly to varying heating or cooling requirements. In addition, building pressurization is used to prevent the infiltration of unconditioned air.



A dual duct high velocity air distribution system makes it possible to maintain constant temperatures of differing degrees in adjoining offices.

Installation and maintenance are easy, even in existing buildings, keeping costs down. The system's equipment does not detract from the external appearance of the building. The system provides for individual comfort, and control of air conditioning in individual rooms or zones is easy.

Flexibility for remodeling and repartitioning is provided. Unwanted air can be exhausted to prevent its recirculation through the building. Finally, cost compares favorably with other types of systems. For example, the cost for installing a dual duct high velocity air distribution system in a large office building in Toronto, Ontario, Canada, was $2.92 per gross square foot. In a building four times as big, in Indianapolis, Indiana, the cost per gross square foot was only $2.95.



Write to us for a copy of FACTS ABOUT DUAL DUCT HIGH VELOCITY AIR DISTRIBUTION SYSTEMS which explains how you can cool one room while providing heat to the next room.

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